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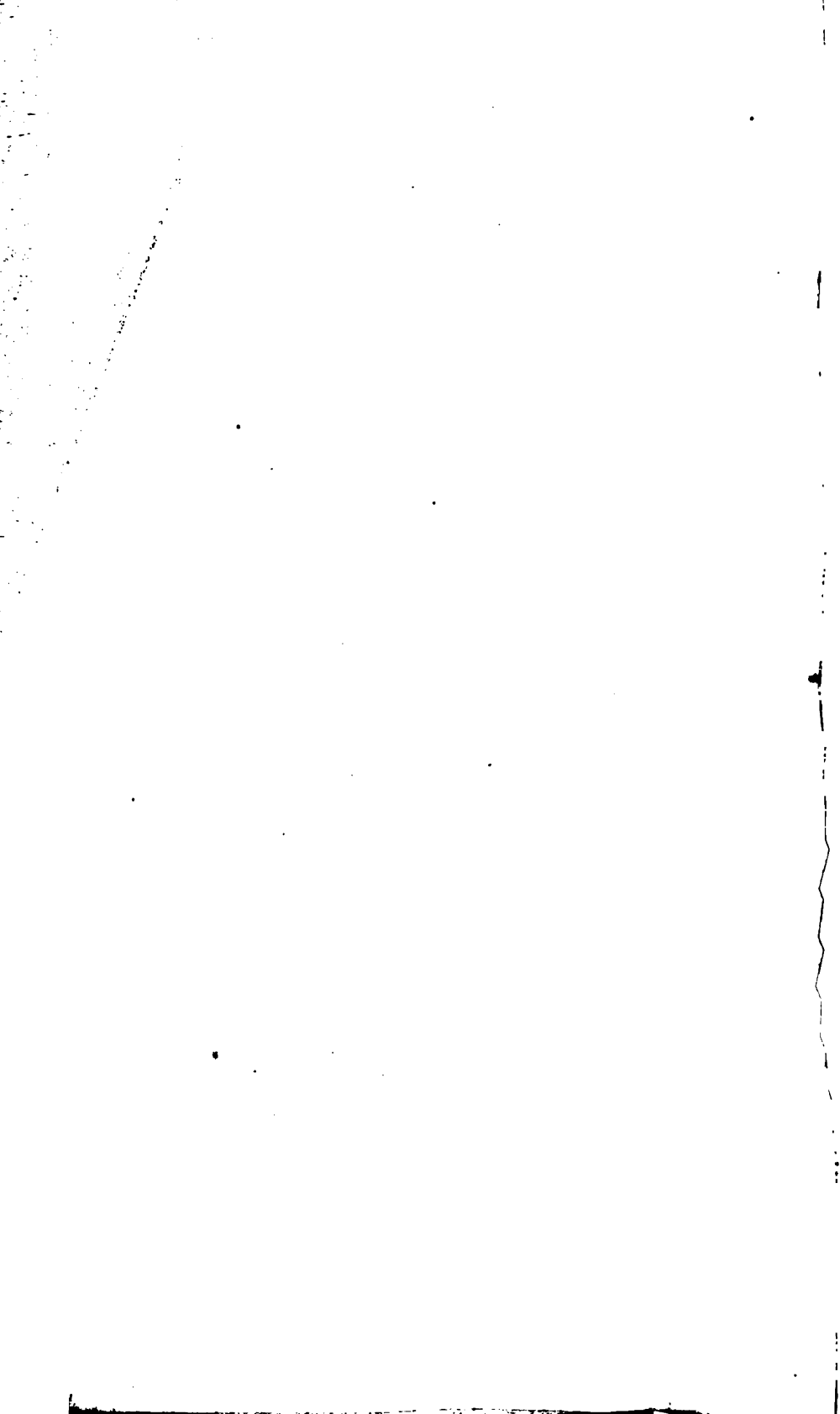
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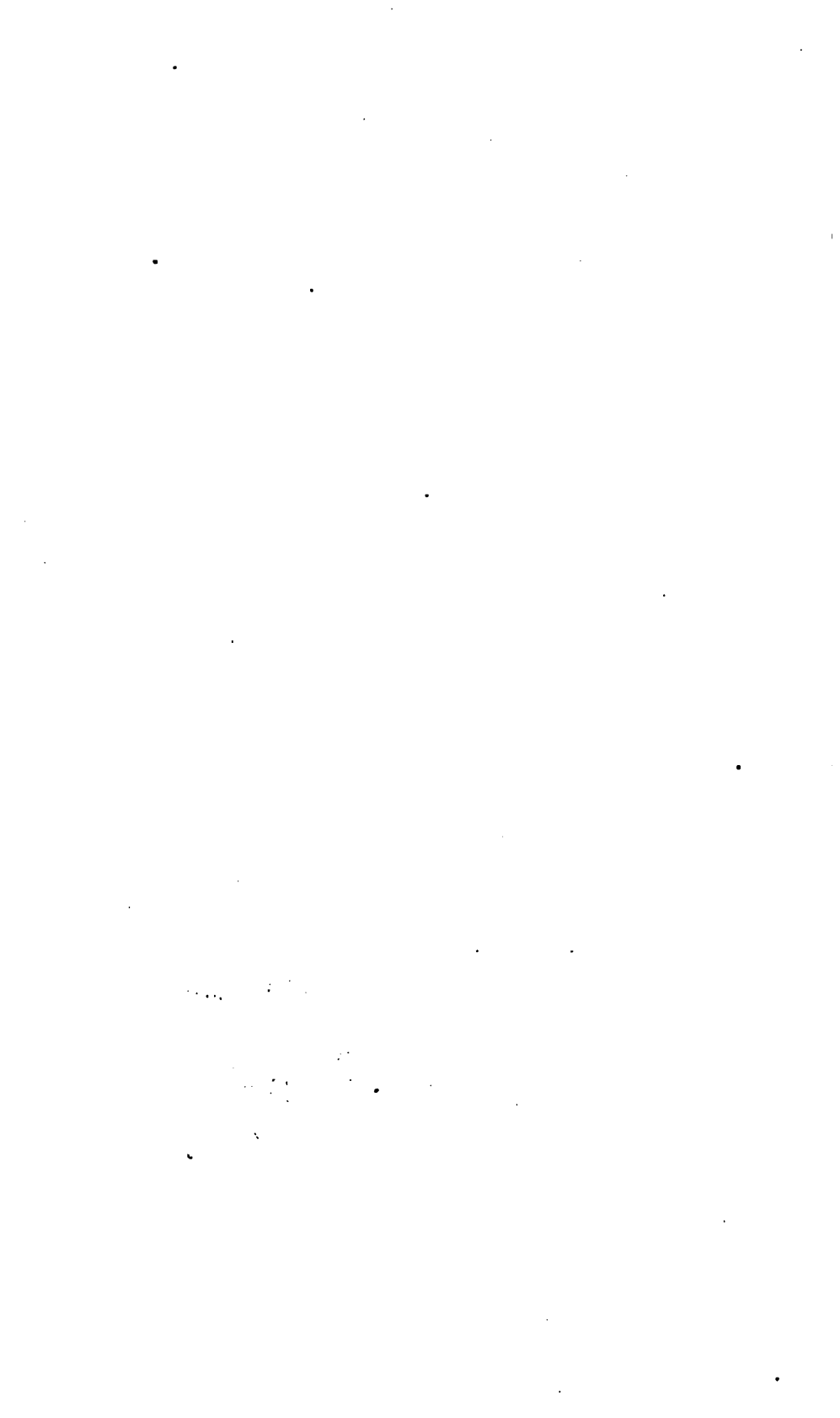
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# PUBLIC DOCUMENTS

OF

MASSACHUSETTS:

BEING THE

## ANNUAL REPORTS

OF VARIOUS

Public Officers and Institutions,

FOR THE YEAR

1866.



PUBLISHED BY THE SECRETARY OF THE COMMONWEALTH,

Under authority of Chapter 4 of the General Statutes.

VOL. I.  
Nos. 1 to 4.



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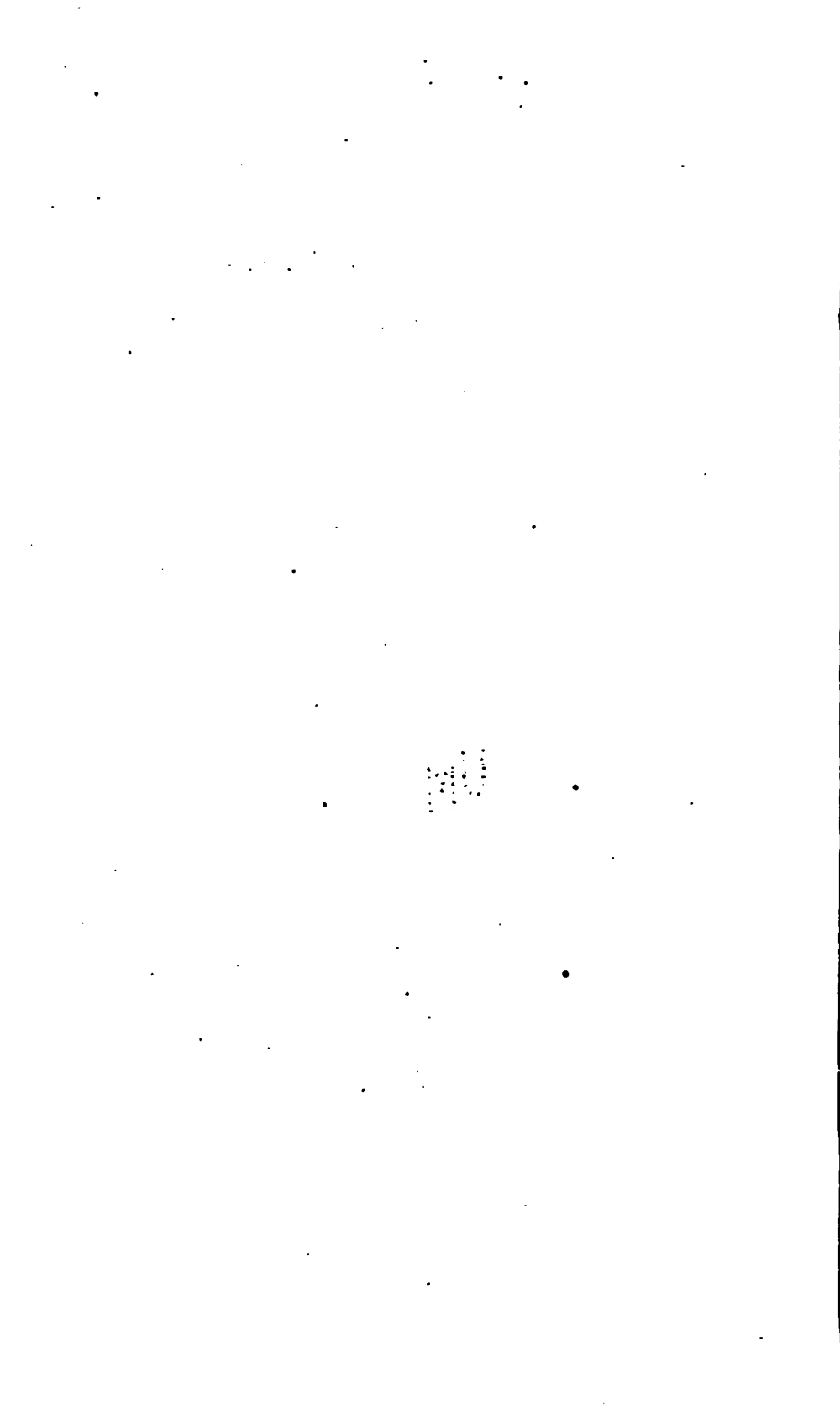
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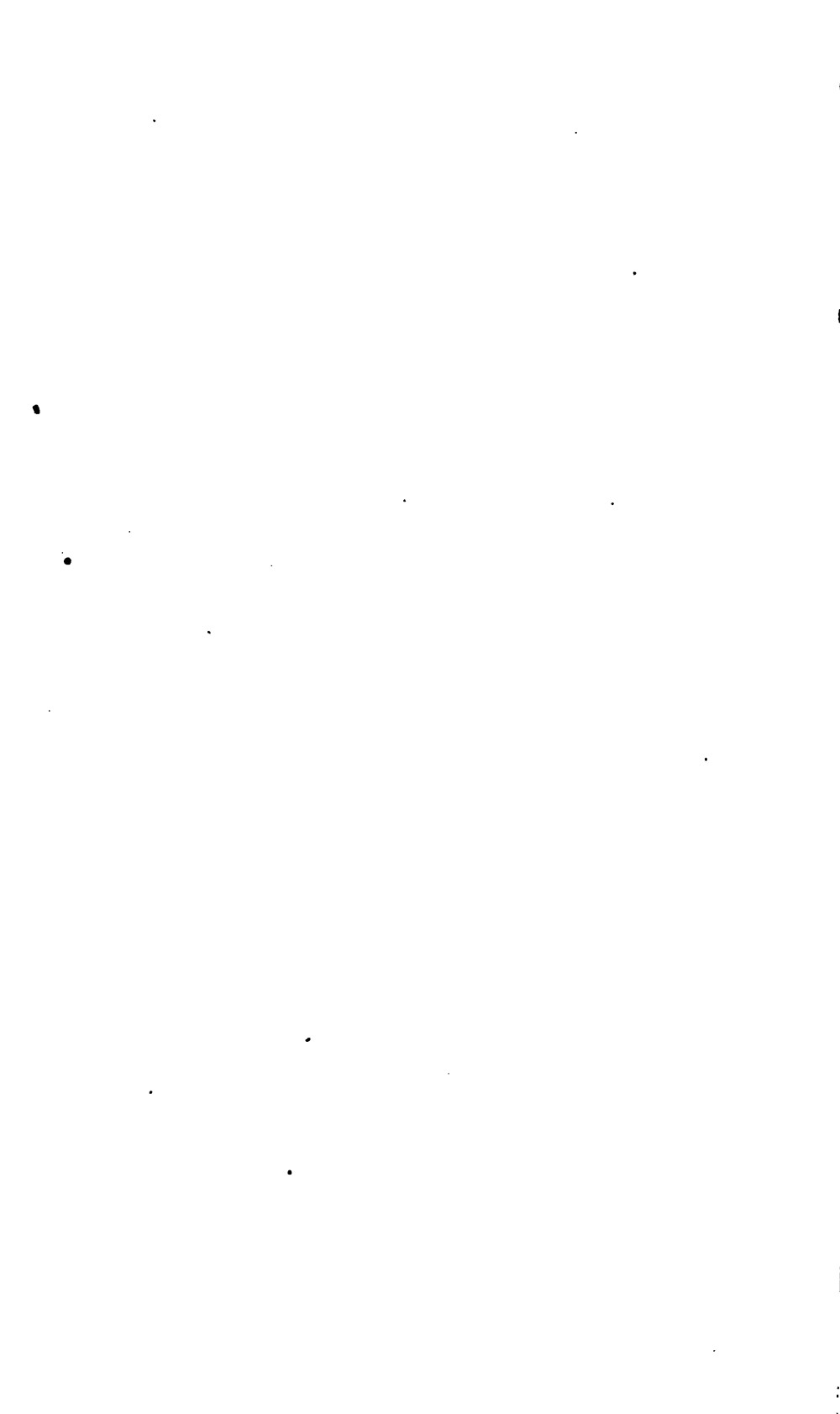
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**TWENTY-FOURTH REGISTRATION REPORT.**

**1865.**



TWENTY-FOURTH REPORT

TO THE

LEGISLATURE OF MASSACHUSETTS,

RELATING TO THE

Registry and Return

OF

BIRTHS, MARRIAGES, AND DEATHS,

IN THE

COMMONWEALTH,

FOR THE YEAR ENDING DECEMBER 31, 1865.

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BY OLIVER WARNER,

SECRETARY OF THE COMMONWEALTH.

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B O S T O N :.

WRIGHT & POTTER, STATE PRINTERS,  
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1867.



# Commonwealth of Massachusetts.

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SECRETARY'S OFFICE, BOSTON, April 20, 1867.

*To the Honorable Senate and House of Representatives.*

I have the honor of presenting herewith in compliance with the requirements of law, the Report relating to the Return of BIRTHS, MARRIAGES and DEATHS, in Massachusetts, for the year ending December 31, 1865.

It forms the Twenty-Fourth of the Annual Reports, and is believed to present points of information which may be of practical importance to the State.

Since the publication of the last Annual Report, the decease of Dr. AUGUSTUS A. GOULD, the former editor, has occurred, occasioning a loss alike to science and humanity. His active labors in various departments of scientific inquiry, outside not less than within the sphere of his professional pursuits, made him extensively known in the scientific world and secured him a high reputation; while the unaffected kindness, affability and generosity so conspicuous in his character, rendered him the object of universal esteem and regard. His noble

nature scorned by insinuation or artifice to undermine another's reputation—his philanthropy was pure, unalloyed by considerations of personal advantage.

The editorial observations accompanying the present Report have been furnished by GEORGE DERBY, M. D., of Boston, who during the late war was four years in active service, with the highest reputation, as Surgeon of the 23d Regt. Mass. Vols., and Surgeon of U. S. Vols.

These analytical remarks and observations evince labor and research, as well as aptitude for this species of investigation. But as the Abstracts of the Census of 1865 are not yet completed, the discussion of certain subjects related thereto, which would otherwise have received attention in these pages, has been necessarily deferred until the publication of another Report. The chapter on Consumption possesses features of novelty, and will not be overlooked.

The importance of thoroughness and accuracy in our System of Registration, as has been heretofore observed, can hardly be over-estimated. Unless the work—including both the original Returns of the town clerks annually made to this office, and also the elaborate abstracts and tables here compiled—be *well* done, it will be worth but very little. Accordingly much care and labor are

employed to secure a complete result. Negligence or error of the town clerks, wherever discoverable in their original Returns, is carefully noted and correction secured by correspondence with the delinquent.

Further to secure the same end, a revised edition of a pamphlet containing full and explicit Instructions, with such additional suggestions as experience has shown to be necessary, has been during the past year printed and forwarded to all town clerks, and to all physicians who applied for them as well as to many who have not. A copy of the laws and instructions concerning the Solemnization of Marriages, has also been prepared for the use of clergymen, and extensively distributed. (Copies of either pamphlet will be immediately forwarded to any physician, clergyman or magistrate making application to this office by letter or otherwise, or whose name may be forwarded by a town clerk.)

A very great improvement has been effected in the RETURNS from the town clerks, since the early years of our Registration, by the continued and persistent effort employed to that end. In compliance with Instructions issued from this office, a canvass of all the families of most of the towns and cities, is annually or semi-annually made, for obtaining the facts of



the BIRTHS which have occurred. This method is simple and effective, and seems to have secured *more complete* returns than any other plan which has been employed. And it should here be stated, that the experience of the past has afforded instruction in regard to several points connected with the obtaining accurate returns, which, though at variance with previous theory, is yet exceedingly exact and conclusive.

The Returns of DEATHS and MARRIAGES are usually not inferior in completeness to those of the Births. The principal difficulties reported by the town clerks, relate to delinquencies of clergymen in regard to marriages; and sometimes to refusals of physicians to comply with the law concerning deaths. Doubtless, the latter difficulty may be remedied in part, by a judicious appeal of the town clerk, and the former it is hoped will be mainly obviated by the general distribution to clergymen of the pamphlet before alluded to, explaining their duties in connection with the Solemnization of Marriages. Nevertheless, cases must be expected occasionally to occur requiring correspondence and a rigid enforcement of the law.

For some twelve years past the Registration duties of this office, have been constantly under the charge and immediate supervision of EDWARD STRONG, M. D.,

whose education and previous pursuits have specially qualified him for such employment. The office labor has been performed by him and the most competent assistants, who have had the like advantage of several years' experience. Improvements have from time to time been made, whenever desirable, and unsparing efforts used to ascertain and effectually employ the best methods of securing a complete and absolutely perfect Registration of BIRTHS, MARRIAGES and DEATHS in Massachusetts.

My connection with this office for the nine years past, enables me to bear testimony in the fullest manner to the faithful, intelligent and scrupulous care employed in the prosecution of this important work from year to year; and to add that the present exceedingly judicious and effective arrangements—never so perfect as now—promise to secure to the Commonwealth increased advantages in the future.

The work of *editing* the Annual Reports, has for many years past been intrusted to the most competent hands. The manner of its performance has given general satisfaction. The Registration Reports of Massachusetts have been constantly increasing in value, and have obtained a high reputation at home and also in Europe. In thoroughness and completeness they are,

to say the least, unsurpassed in this country, and the methods employed have served as models for adoption in other States. During the past week, a request has been answered from the State of Kentucky, for information concerning our Registration System, and specimens supplied of the blanks and documents employed therein, for the use of those intending the improvement of a Registration System there. Similar requests from other States for information and suggestions, &c., have not been infrequent in previous years, and furnish the most flattering testimony in favor of the system here adopted and of the success which has attended its prosecution.

Respectfully submitted.

OLIVER WARNER,

*Secretary of the Commonwealth.*

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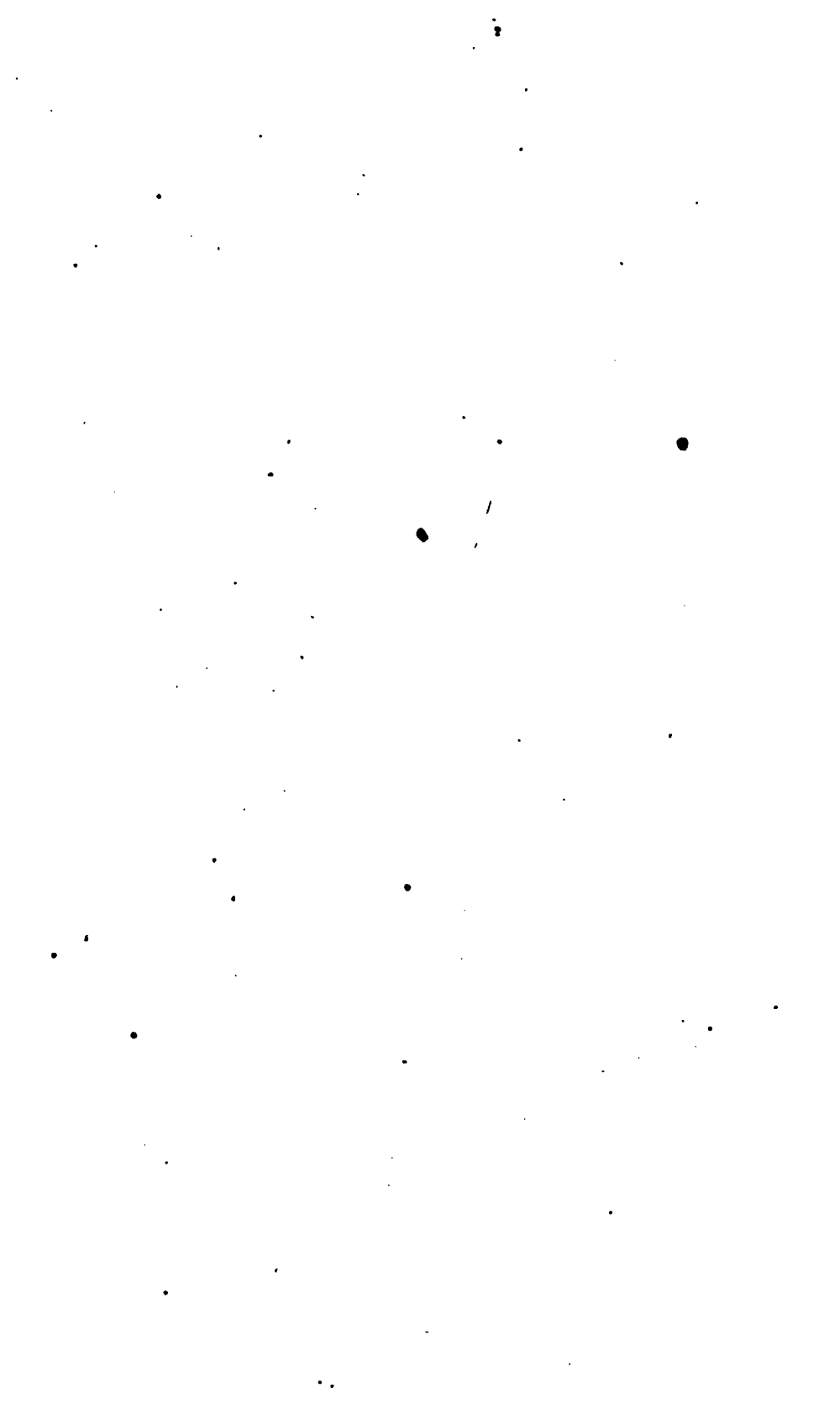
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# TWENTY-FOURTH REGISTRATION REPORT.

(1865.)

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IN presenting the following comments upon the mass of observations which constitute the Twenty-Fourth Annual Report of the social life of the State, it may not be unprofitable to look for a moment at its object. Many will ask themselves, "What is the practical benefit to be derived from these figures?" It is the knowledge of human development in communities, subject to many influences promoting or retarding their growth and welfare. These influences may be changed by public opinion, and by legislation. Exactly what they are may be suspected, but cannot be demonstrated except just in this way. This is not a work the full measure of whose results can be clearly anticipated. Much we already perceive, but very much is yet to be made clear by the patient accumulation of facts in a long series of years. Within the recollection of the present generation, improvements in physical well-being have been made which should lead us to search eagerly for others equally beneficial; and in no way is the clew to them so readily to be found as in the mass of facts contained in these and similar reports.

The obligations of a true philanthropy are not answered by a relief of suffering, but require that it should be anticipated and averted. The observations which during the past quarter of a century have been made in various countries of Europe, as well as in Massachusetts, clearly prove that many calamities which in a less enlightened age would have been regarded as a part of man's inevitable destiny, are preventable by improved social arrangements. What duty can be more imperative than to endeavor to discover those noxious agencies which shorten our lives and limit our happiness?

The year 1865 was one of war. Happily it saw the conclusion of the fearful strife; but during the first five months of the year this State had as large a number of men in the field as at any former period. The disturbing influence of this condition upon the matters with which we have to deal has been remarked upon in several preceding reports. We shall see that it still deranges the relations between births, deaths, and marriages, which the experience of many years previous to the war would warrant us in expecting. There is, however, an evident foreshadowing in the reports of this year of a return to normal relations.

The whole number of names registered during the year eight-hundred and sixty-five, was eighty-two thousand five hundred and five.

These are divided as follows: thirty thousand two hundred and forty-nine (30,249) children were born alive, of which fifteen thousand six hundred and fifty-nine (15,659) were males, and fourteen thousand five hundred and ninety (14,590) were females.

Thirteen thousand and fifty-two (13,052) couples, or twenty-six thousand one hundred and four (26,104) persons were married. Of this number, seven thousand eight hundred and fourteen (7,814) were purely American marriages; and five thousand two hundred and thirty-eight (5,238) were marriages either of foreigners exclusively, or in which one party was foreign. The whole number of deaths was twenty-six thousand one hundred and fifty-two (26,162,) of which thirteen thousand one hundred and seven (13,107) were males, and thirteen thousand and forty-five (13,045) were females.

A comparison of these numbers with those of 1864 shows, first, a decrease of 200 births; second, an increase of 538 marriages; third, a decrease of 2,571 deaths. Here are the first indications of a return to the usual relations. The army was disbanded, for the most part, in the early summer of 1865. In April, however, nine months before the close of the year, it appears from information which we have derived from the office of the adjutant-general of the State, more than 83,000 men were in the field. How many Massachusetts men were at that time serving in the navy it is very difficult to determine; but the whole number absent from the State on public service was probably greater than at any time during the preceding three years.

This offers a satisfactory explanation of the diminished number of births. The large increase of marriages is evidently due to the close of the war. The number is greater than ever before reported, except in 1854, and an unusual proportion occurred in the last quarter. The diminished number of deaths, although greater than ever recorded previous to 1863, also marks a year, half of which was exposed to the casualties of war, and the other half in the enjoyment of peace. In the next year we may reasonably expect a material change in the relation of births, deaths, and marriages, from that which the past four years has afforded.

The natural increase of population, or the excess of births over deaths, for 1865, is only four thousand and ninety-seven (4,097.) This is better than the preceding year by two thousand three hundred and seventy-one (2,371.)

The population of the State being 1,267,059, one living child was born to every 41·89 persons. One person in every 48·54 was married. One person in every 48·45 died.

The average number of births daily was 82·87. The average number of marriages daily was 35·76, or 71·52 persons. The average number of deaths daily was 71·65.

The percentage of births, deaths and marriages was as follows :

Births, . . . . .	2·387
Persons married, . . . . .	2·059
Deaths, . . . . .	2·064

The excess of the birth-rate over the death-rate was therefore ·323 of one per cent. It is remarkable how nearly the marriage-rate and death-rate correspond.

The excess of deaths of males over those of females was sixty-one. In 1864, it was twelve hundred and sixty-six. In 1863, it was twelve hundred and sixty-four. In 1862, it was eight hundred and twenty-two. While in the ten years which preceded the war, the deaths of females exceeded those of males.

By comparison with the returns for 1864, it appears that the births have diminished in all the counties except Barnstable, Berkshire, and Suffolk. The marriages have increased in all the counties except Franklin and Suffolk. The deaths have notably diminished in every county except Nantucket and Dukes.

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The average age of those who died was 28·68 years, an increase of ·88 of a year over 1864. The lowest average is as usual, in Suffolk County, (24·24,) owing evidently to the large proportion of deaths of young children of foreign parentage. Throwing out Nantucket and Dukes Counties, where the numbers are so small that they are of little value by themselves, the highest averages are in Franklin (37·97,) Barnstable (35·07,) Plymouth (33·80,) and Berkshire (31·95.)

TABLE showing the Number of BIRTHS, MARRIAGES, and DEATHS Registered in Massachusetts during the past nine years.

YEARS.	Births.	Marriages.	Deaths.	Excess of Births over Deaths.	Births to 100 persons.	Deaths to 100 persons.	Excess of Births in 100 persons.
1857, . .	85,820	11,739	21,280	14,040	3·01	1·82	1·19
1858, . .	84,491	10,527	20,776	13,715	2·89	1·74	1·15
1859, . .	85,422	11,475	20,976	14,446	2·92	1·73	1·19
1860, . .	86,051	12,404	23,068	13,983	2·93	1·87	1·06
1861, . .	85,445	10,972	24,085	11,360	2·86	1·96	·90
1862, . .	82,275	11,014	22,974	9,301	2·62	1·86	·76
1863, . .	80,314	10,878	27,751	2,563	2·42	2·22	·20
1864, . .	80,449	12,513	28,723	1,726	2·42	2·28	·14
1865, . .	80,249	13,051	26,152	4,097	2·38	2·06	·32

The above table shows how the natural increase, that is, the difference between births and deaths, has been interrupted during the past five years. It also shows how the return of peace in the last six months of 1865 is beginning to restore the natural and healthful relations. It can hardly be doubted that another year will make this perfectly evident.

## POPULATION.

The State Census of 1865 is not yet published, and its information is only partially available. All the tables in this Report in which age and sex are in question, have necessarily been based upon the United States Census for 1860. We have not, however, felt at liberty to ignore the State Census of 1865, whenever it could be properly used, although the inconvenience of having two standards of comparison in the same Report is obvious.

In all cases where the whole population of the State, or of separate counties are given, the numbers referred to are as seen below, unless otherwise stated. It will be observed that a more careful revision makes a slight change in every county, except Dukes, from the figures given last year, and that the aggregate is 1,267,059, instead of 1,267,329.

## POPULATION by Counties for the year 1865.

Barnstable, . . . .	34,610	Middlesex, . . . .	220,384
Berkshire, . . . .	56,944	Nantucket, . . . .	4,748
Bristol, . . . .	89,425	Norfolk, . . . .	116,306
Dukes, . . . .	4,200	Plymouth, . . . .	63,107
Essex, . . . .	171,084	Suffolk, . . . .	208,211
Franklin, . . . .	31,340	Worcester, . . . .	162,911
Hampden, . . . .	64,570		
Hampshire, . . . .	39,269	Whole State, . . . .	1,267,059

A comparative view of the population by counties for the three preceding semi-decades was given in the Report for 1864.

## BIRTHS.

The number of registered births during the past fourteen years, in Massachusetts, has been as follows:—

Y E A R .	Born alive.	Stillborn.	Y E A R .	Born alive.	Stillborn.
1865, . . .	30,249	859	1858, . . .	34,491	747
1864, . . .	30,449	856	1857, . . .	35,320	739
1863, . . .	30,314	903	1856, . . .	34,445	696
1862, . . .	32,275	907	1855, . . .	32,845	725
1861, . . .	35,445	1,017	1854, . . .	31,997	558
1860, . . .	36,051	1,062	1853, . . .	30,920	568
1859, . . .	35,422	783	1852, . . .	29,802	598

It is thus our duty to record a smaller number of births in 1865 than in any previous year since 1852. From 1860 to the present year there has been a steady decrease, only broken by a very small increase in 1864. A very obvious explanation is found in the absence from the State of so large a number of men serving in the army and navy. These men, it must be remembered, were in the prime of life. Their numbers increased as the war continued, and not only this, but from the whole number of those who would otherwise have become fathers of children, must also be deducted a large proportion of those who were killed or died from disease in the earlier years of the struggle.

It has already been stated that on the first of April, thirty-three thousand were absent in the army. Add to this number a moderate estimate of ten thousand in the navy, and to this add the number who had died in the public service, in constantly increasing numbers during the previous four years, and the small number of births becomes intelligible. The returns of the next year will show if other causes are in operation to diminish the natural increase of the population.

The population being 1,267,059, we have one living birth to every 41·89 persons; or, including stillborn, one birth to every 40·73 persons.

LIVING BIRTHS, and numbers living to one Birth in the different Counties.

COUNTIES.	Population in 1865.	Living Births.	Numbers living to one Birth.
Barnstable, . . . . .	34,610	771	44·89
Berkshire, . . . . .	56,944	1,341	42·46
Bristol, . . . . .	89,425	1,978	45·26
Dukes and Nantucket, . . . .	8,948	135	66·21
Essex, . . . . .	171,084	3,740	45·73
Franklin, . . . . .	31,340	582	53·85
Hampden, . . . . .	64,570	1,561	41·86
Hampshire, . . . . .	39,269	828	47·43
Middlesex, . . . . .	220,384	5,380	40·96
Norfolk, . . . . .	116,306	2,880	40·39
Plymouth, . . . . .	63,107	1,321	47·77
Suffolk, . . . . .	208,211	5,735	36·31
Worcester, . . . . .	162,911	3,997	40·76
Whole State, . . . . .	1,267,059	30,249	41·89

It is apparent from this table that the births are most numerous in the counties containing crowded towns and a large foreign population; and least numerous in the agricultural counties, and those less densely inhabited.

Suffolk, Norfolk, Worcester, Middlesex, and Hampden Counties, are most prolific. Dukes and Nantucket and Franklin Counties are least prolific. Why are more children born to the population in large towns than in small ones? The answer to this question is to be found partly in the great emigration from our farms. Young people leave them in great numbers, and seek



their fortune in large cities, in factory towns, in the West, in the mining regions, on the sea, and in every part of the world. We shall also presently see in the table of parentage in connection with births, that a marked difference exists in the fecundity of the Celtic (including the Irish of our large towns,) and the Anglo-American races. It should not be inferred from these remarks that the ratio of excess of births among the foreigners settled in our large towns, over the natives of Massachusetts, is likely to lead finally to an extinction of the American element, since it is extremely probable, as we shall have occasion to observe when commenting upon the foreign deaths, that they also are in similar ratio.

The marked decrease in the whole number of births since 1860, in the different counties, is shown in the following table.

DECREASE of BIRTHS, *including stillborn*, in 1865, compared with 1860, by COUNTIES.

COUNTIES.	1860.	1865.	Differences.	Percentage of decrease.
Barnstable, . . . . .	792	796	+4	+0.25*
Berkshire, . . . . .	1,434	1,354	-80	5.58
Bristol, . . . . .	2,837	2,027	-810	28.55
Dukes and Nantucket, . . .	192	137	-55	28.64
Essex, . . . . .	5,021	3,808	-1,213	24.16
Franklin, . . . . .	797	590	-207	25.92
Hampden, . . . . .	1,563	1,572	+9	+0.57*
Hampshire, . . . . .	950	835	-115	12.12
Middlesex, . . . . .	6,841	5,528	-1,313	19.27
Norfolk, . . . . .	3,431	2,951	-480	13.99
Plymouth, . . . . .	1,778	1,337	-441	24.80
Suffolk, . . . . .	6,543	6,124	-419	6.40
Worcester, . . . . .	4,934	4,054	-880	17.85
Whole State, . . . . .	37,118	31,108	-6,005	16.18

\* None.

Only two counties form exceptions to the very marked diminution in the number of births since the commencement of the war, and these, (Barnstable and Hampden,) in a degree so trifling that they may be regarded merely as having not retrograded. In Berkshire, Suffolk, Hampshire, and Norfolk, the decrease has been less than the average. In Nantucket and Dukes, Bristol, Franklin, Plymouth, Essex, Middlesex, and Worcester, the decrease has been more than the average. In the State at large it amounts to 16.18 per cent.

It is a singular but well ascertained fact, that the number of births occurring in the various seasons is in a nearly constant ratio in the same country. This seems to depend not upon physiological causes as in the lower animals, but rather upon custom, religious observances and occupation. The great number of marriages which take place in Massachusetts about "Thanksgiving," and in the early winter, doubtless influence it. The return home from the summer fishing season brings together husbands and wives who have been separated, often for many months. The following table shows the whole number of living births in each quarter, and the birth-rate of each quarter, supposing the same had been maintained through the year.

BIRTHS in Massachusetts.—*Quarterly Rates.*

PERIOD.	Numbers.	Percentage.
Quarter ending March, . . . . .	7,126	2.249
June, . . . . .	7,010	2.212
September, . . . . .	8,080	2.552
December, . . . . .	8,083	2.535
Whole year, . . . . .	30,249	2.887

It will be seen from the above table that there were nearly two thousand more births in the half year ending in December than in the half year ending in June; that the third quarter was slightly in excess of the fourth, and the two extreme quarters in excess

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of the two middle quarters. How this compares with previous years is shown in the following table :—

BIETHS arranged in periods of Six Months.

Y E A R S .	Two first Quarters.	Two last Quarters.	Two middle Quarters.	Two extreme Quarters.	Extreme Difference.
1861, . . .	16,644	18,756	17,978	17,427	2,112
1862, . . .	15,308	16,938	16,058	16,188	1,630
1863, . . .	14,338	15,952	15,022	15,268	1,614
1864, . . .	14,052	16,366	15,190	15,228	2,314
1865, . . .	14,136	16,113	15,090	15,159	1,977
Average, . .	14,896	16,825	15,864	15,854	1,929

*Sex.*—The following table exhibits the numbers and proportions of the sexes for the last fourteen years.

BIRTHS.—*Numbers and Proportions of Sexes for Fourteen Years.*

		1865.	1859-64.
Born alive,	{ Males, . . . . .	15,623	220,132
	{ Females, . . . . .	14,554	207,905
	{ Not stated, . . . . .	72	1,751
Males to 100 Females, . . . . .		107·8	105·9
Stillborn, . . .	{ Males, . . . . .	467	5,477
	{ Females, . . . . .	817	3,675
	{ Not stated, . . . . .	75	1,923
Males to 100 Females, . . . . .		147·8	149
Illegitimate, . .	{ Males, . . . . .	131	1,065
	{ Females, . . . . .	136	1,086
	{ Not stated, . . . . .	4	24
Males to 100 Females, . . . . .		96·8	98

It will be seen that the proportion of males to females born alive is this year a little greater than usual. The still-births show

very nearly the same proportions as in previous years, the males greatly preponderating. The cause of this disparity is perhaps to be found in the greater size of male children, increasing the difficulty of their entrance into the world.

Among illegitimates, females are, as in previous years, slightly in excess, from causes which are obscure. The proportion of males to females in the several counties in 1865, stands as follows :

BIRTHS by Counties.—*Proportion of Males to Females.*

COUNTIES.	Males, per cent.	Females, per ct.	Males to 100 Females.	COUNTIES.	Males, per cent.	Females, per ct.	Males to 100 Females.
Barnstable, .	54.53	45.47	120	Hampshire, .	50.12	49.88	100
Berkshire, .	49.63	50.37	98	Middlesex, .	51.86	48.14	107
Bristol, .	52.20	47.80	109	Norfolk, .	51.80	48.20	105
Dukes & Nantucket, .	57.46	42.54	135	Plymouth, .	51.90	48.10	108
Essex, .	53.12	46.88	113	Suffolk, .	51.61	48.39	107
Franklin, .	53.53	46.47	115	Worcester, .	50.90	49.10	104
Hampden, .	51.45	48.55	106	Whole State, .	51.77	48.23	107

It will be observed that the proportions vary greatly with the different counties. Suffolk, Worcester, Plymouth, Middlesex, Norfolk, Hampden and Bristol, correspond very nearly with the average for the whole State ; while Barnstable, and Dukes and Nantucket, show a very large proportion of male births ; and Essex and Franklin are considerably above the average. In Hampshire the numbers of the two sexes are very nearly equal, and in Berkshire the females predominate.

EXHIBIT OF THE PARENTAGE OF THE CHILDREN BORN ALIVE IN SEVERAL CLASSES, WHICH WERE REGISTERED IN THE SEVERAL COUNTIES OF MASSACHUSETTS, DURING THE YEAR 1865.

	Whole State.	Barnstable.	Berkshire.	Bristol.	Dukes and Nantucket.	Essex.	Franklin.	Hampden.	Hampshire.	Middlesex.	Norfolk.	Plymouth.	Suffolk.	Worcester.
Aggregates, {														
Totals, .	30,249	771	1,341	1,978	135	3,740	582	1,561	828	5,380	2,880	1,821	5,735	3,997
Males, .	15,623	415	664	1,030	77	1,982	311	800	413	2,785	1,474	685	2,958	2,029
Females, .	14,564	346	674	943	57	1,749	270	755	411	2,585	1,399	635	2,773	1,957
Unknown, .	72	10	8	5	1	9	1	6	4	10	7	1	4	11
PARENTAGE.														
American, .	13,276	658	610	1,082	115	1,971	402	695	402	2,091	1,165	852	1,580	1,653
Foreign, .	14,130	71	607	750	8	1,406	153	752	361	2,729	1,463	363	3,399	2,068
American Father, Foreign Mother, .	1,115	11	30	46	2	156	5	37	19	235	108	29	346	91
Foreign Father, American Mother, .	1,291	17	61	70	7	155	13	46	25	267	180	34	351	115
Not stated, .	437	14	33	80	3	52	9	31	21	58	14	43	59	70
Of Plurality Cases, (included above.)														
Aggregates, {														
Totals, .	591	24	34	36	8	80	2	35	16	92	55	24	96	89
Males, .	292	13	21	18	4	43	2	10	6	46	31	10	52	36
Females, .	299	11	13	18	4	37	-	25	10	46	24	14	44	53
Americans, {														
Males, .	117	10	9	8	2	21	-	6	1	15	9	10	10	16
Females, .	134	10	5	12	4	13	-	16	7	19	8	12	8	20
Foreign, {														
Males, .	150	3	11	10	2	20	2	4	5	29	18	-	31	15
Females, .	136	1	7	6	-	20	-	7	3	15	14	2	33	28
Am. Father, {														
For. Mother, {														
Males, .	12	-	-	-	-	-	-	-	-	1	1	-	5	5
Females, .	12	-	-	-	-	2	-	2	-	3	1	-	3	1

For. Father, . { Males, . . . . .	12	-	1	-	-	-	-	-	-	-	2	-	1	2	-	6	-	4	-
Am. Mother, . { Females, . . . . .	14	-	1	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-
Unknown, . { Males, . . . . .	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unknown, . { Females, . . . . .	8	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
<i>Mothers of Illegitimate Births, (included above.)</i>																			
Aggregates, . { Totals, . . . . .	271	10	20	27	5	25	6	24	9	50	10	40	22	23	-	22	-	23	-
Aggregates, . { Males, . . . . .	131	5	6	16	4	9	1	14	4	25	3	19	10	15	-	10	-	15	-
Aggregates, . { Females, . . . . .	136	5	12	11	1	16	4	10	4	25	7	21	12	8	-	12	-	8	-
Aggregates, . { Unknown, . . . . .	4	-	2	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-
American, . { Males, . . . . .	81	5	6	15	4	8	1	8	-	7	2	6	5	14	-	5	-	14	-
American, . { Females, . . . . .	62	4	9	5	1	13	4	1	1	4	4	7	3	6	-	3	-	6	-
American, . { Unknown, . . . . .	2	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Foreign, . { Males, . . . . .	47	-	-	1	-	1	-	6	4	17	1	12	4	1	-	4	-	1	-
Foreign, . { Females, . . . . .	67	1	2	5	-	2	-	9	3	20	3	13	7	2	-	7	-	2	-
Foreign, . { Unknown, . . . . .	2	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Unknown, . { Males, . . . . .	8	-	-	-	-	-	-	-	-	1	-	-	1	-	-	1	-	-	-
Unknown, . { Females, . . . . .	7	-	1	1	-	1	-	-	-	1	-	1	2	-	-	2	-	-	-

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It appears from the preceding table that the difference between the births of purely American parentage and those of purely foreign parentage, is 854 in favor of the latter. The difference between those of purely American parentage and those of foreign and mixed parentage is 3,260. The whole number of mixed parentage is 2,406.

## *Percentages of American and Foreign LIVING BIRTHS during the past Seventeen Years.*

	Average of five years. 1849-53.	Average of five years. 1854-58.	Average of five years. 1859-63.	1864.	1865.
American, . . . .	68-02	50-88	46-06	44-91	44-53
Foreign, . . . .	35-96	44-12	46-89	47-62	47-40
One parent foreign, .	1-02	5-50	7-05	7-47	8-07

It thus appears that the relative diminution of purely American births was, between first and second periods of five years, 12-64 per cent.; between second and third periods of five years, 4-32 per cent.; and in the two years of third period 1-34 per cent. This indicates that the relative increase of foreign births is still going on, although with diminished rapidity.

The war has checked immigration, but not in a degree to restore the relative increase of purely American births. As regards the influence of the war upon those who were settled here during its continuance, there seems no reason to doubt that it operated equally with respect to births, upon those of American and foreign origin.

We come now to an important fact bearing upon the question of the relative increase of the native and foreign population. The native population of Massachusetts in 1860 was 970,952. The foreign population of Massachusetts in 1860 was 260,114. Of this latter class, 185,434 persons were born in Ireland. The children born of native parents in Massachusetts in 1860, numbered 16,672. The children born of foreign parents in Massachusetts in 1860, numbered 16,138. The children born of mixed parentage in Massachusetts in 1860, numbered 2,411. Parentage not stated, 830.

Now if we divide equally the children of mixed parentage, and divide the class "not stated" by the percentage of those which are stated, we have in the same year 1860, as the product of 970,952 natives, 18,299 children. Product of 260,114 foreigners, 17,752 children.

An equally complete comparison for the present year cannot yet be made, as we do not know the relative strength of the native and foreign population, which has doubtless changed in the past five years by immigration and other causes; but a division of the births for 1865, made in the same way, gives this result:—

Native, . . . . 14,691    Foreign, . . . . 15,558

From these figures, the superior fecundity of the Celtic race, when transferred to our soil, over the Anglo-American race, is we think abundantly proved. They are multiplying with great rapidity, and their ranks are recruited by constant accessions from Ireland, who bring with them, if nothing else, plenty of children. The amount of this immigration is very difficult to determine, except through the census, as the arrivals are not only at our own ports, but through New York, and large numbers by the British Provinces. A new race is pressing upon that which has almost exclusively occupied our territory for two centuries, and the effects of this change in the character of our population, it will be the duty of statistes to carefully watch. We shall have occasion to refer to this subject again in speaking of deaths.

*Plural Births.*—Two hundred and eighty-eight women gave birth to twins, and five women gave birth to triplets in 1865; making the whole number of plural births, five hundred and ninety-one.

42·47	per cent.	were of	American	parentage.
48·40	"	"	of foreign	"
9·18	"	"	of mixed	"

Of the five cases of triplets, one (each comprising three females,) occurred in each of the counties of Hampden, Norfolk, Suffolk, and Worcester. The fifth, (comprising three males,) was in Suffolk County. All were of foreign parentage except the case in Norfolk County.



As regards the frequency of plural births in Massachusetts, it appears that during the past ten years, 334,498 children have been born. This number includes 3,211 pairs of twins, and 32 cases of triplets; making together of plural births 6,518 individuals. One case of twins has occurred to every 104 births, and one case of triplets to every 10,453 births.

*Illegitimates.*—The whole number of illegitimate children reported in 1865 was 271, with a slight excess of females. Of this number 145 were of native, and 116 of foreign maternity. A large proportion of these cases occurred in the State almshouses. From these figures it would appear that one child in every 112 is illegitimate. It is extremely probable, however, that many cases which should come under this head are not reported.

*Stillborn.*—The whole number of stillbirths reported for 1865, is 859, being three more than the previous year. The males are as usual largely in excess; 467 males to 317 females, with 75 not stated. The percentage of stillborn to the whole number of births is 2.76, or one stillborn to every thirty-six births.

## MARRIAGES.

The number of marriages during 1865 was 13,052. This is larger than in any preceding year, except 1854, when the remarkable number of 13,683 was returned.

Compared with 1864, there is an increase of 539. The following table gives the number for seven preceding years:—

MARRIAGES registered in Massachusetts, 1858–1865.

	1865.	1864.	1863.	1862.	1861.	1860.	1859.	1858.	Average, '58-'64.
Marriages, . .	13,052	12,513	10,878	11,014	10,972	12,404	11,475	10,527	11,397
Persons married,	26,104	25,026	21,746	22,028	21,944	24,808	23,950	21,054	22,794

From this it appears that the number of marriages in 1865 was greater than the average of the seven preceding years by 1,655.

There was one marriage to every 97·10 persons, or one person was married to every 48·55. The percentage of marriages to population was 1·030. In the preceding year it was 1·016.

The large number of marriages in 1865 is evidently due to the close of the war. No more appropriate celebration of the return of peace could be devised than that which so many of our returning soldiers provided for themselves in this way. It will also be seen from the following table that, unlike previous years, the increase of marriages was regular and progressive through the four quarters; and in this we find additional proof that the return of our soldiers and sailors, which commenced in the early summer and was nearly completed at the close of the year, is to be regarded as the happy cause of this disturbance of the usual numbers and proportions of marriages in Massachusetts.

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## MARRIAGES in Massachusetts.—*Quarterly Aggregates and Percentages.*

	1st quarter.	2d quarter.	3d quarter.	4th quarter.
Year 1865, . . . .	2,821	2,965	3,105	4,127
Years 1856-65, . . . .	25,094	29,176	26,853	33,899
Quarterly percentages, 1865, .	21.67	22.78	23.84	31.71
Quarterly percentages, 1856-65,	21.82	25.36	23.34	29.48

The largest number of marriages was as usual in November, (1,510,) the month of Massachusetts "Thanksgiving." The smallest number occurred in March, (656,) April, (932,) and August, (938.) In Berkshire County the largest number (66,) occurred in October, while in Essex, (229,) Franklin, (33,) Hampshire, (48,) Plymouth, (85,) and Worcester, (186,) the largest number was in December.

## MARRIAGES of persons under thirty-five years of age, 1859-65. *Percentages.*

	1859.	1860.	1861.	1862.	1863.	1864.	1865.
Males, .	84.17	83.67	83.45	81.76	80.92	82.42	81.60
Females, .	91.26	94.18	91.04	91.04	90.77	91.93	90.60

Compared with the preceding year, there was an increase of 409 males and 429 females marrying under thirty-five; but the percentage of such marriages to the whole number was, as seen above, slightly diminished. A comparison of these seven consecutive years shows, on the whole, a disposition of males to marry later in life. The past two years, however, have not exhibited the steady decline of percentage which marked the previous five. Fifty-two persons of seventy years and upwards were married in 1865—forty-nine males and three females.

The following table is based on the population of 1860, with the exception of the columns relating to this year, which are based on the population shown by the State census of 1865:—

MARRIAGES in Massachusetts.—*Rates by Counties.*

COUNTIES.	Marriages to 100 living.		Persons living to 1 Marriage.	
	1853-54.	1865.	1853-54.	1865.
Barnstable, . . . .	0.746	1.095	123	91
Berkshire, . . . .	0.820	0.969	120	103
Bristol, . . . .	0.854	1.001	116	100
Dukes, . . . .	0.816	1.024	123	98
Essex, . . . .	0.987	1.031	107	97
Franklin, . . . .	0.729	0.912	135	109
Hampden, . . . .	1.219	1.089	83	92
Hampshire, . . . .	0.862	0.929	117	108
Middlesex, . . . .	0.863	0.916	117	109
Nantucket, . . . .	0.730	1.150	145	86
Norfolk, . . . .	0.755	0.788	133	127
Plymouth, . . . .	0.746	0.952	135	105
Suffolk, . . . .	1.320	1.398	78	69
Worcester, . . . .	0.912	0.958	110	104
Whole State, . . . .	0.865	1.030	116	97

For the present year the highest marriage rate is in Suffolk County; the next in order are Nantucket, Barnstable and Hampden. The lowest marriage rate is in Norfolk County. The marriage rate for the State is 1.030. One *marriage* took place for every 97 living, or one *person* was married for every 48.54 living.

The following tables show the social condition of those who married in 1865, so far as they were stated :—

# 20      TWENTY-FOURTH REGISTRATION REPORT. [1865.

## AGES at Marriage of 12,987 MEN and of 12,954 WOMEN.

SEX.	Under 20	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to 79	80 to 84
Men, . .	203	4,598	4,174	1,675	895	497	390	221	140	92	53	38	11	
Women, .	2,486	5,718	2,641	981	527	265	166	75	54	26	13	3	-	

## AGES at Marriage of 10,559 BACHELORS and of 11,186 MAIDS.

	Under 20	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to 79	80 to 84
Bachelors, .	203	4,521	3,861	1,283	429	160	69	23	4	4	2	-	-	
Maids, . .	2,460	5,480	2,236	619	223	88	54	17	6	2	1	-	-	

## AGES at Marriage of 2,370 WIDOWERS and of 1,709 WIDOWS.

	Under 20	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to 79	80 to 84
Widowers, .	-	59	294	383	462	332	321	195	136	88	51	38	11	
Widows, . .	17	213	888	357	302	177	111	58	48	24	11	3	-	

The average age of men marrying in 1865 was 29·6. The average age of women marrying in 1865 was 25. The average age at first marriage was, with men, 26·4 ; with women, 22·8.

Of 10,588 bachelors who forsook a single life, 9,798, or 92·56 per cent. married maids, and 788, or 7·44 per cent., married widows. Of 2,384 widowers re-marrying, 1,444 preferred maids and 940 widows.

Of 1,728 widows, 788 married bachelors, and 940 married widowers.

Of the widows re-marrying, 35·76 per cent. were under thirty years of age.

The average age of widows marrying bachelors was 30 years ; of widows marrying widowers, 39 years.

The average age of widowers marrying maids was 39 years ; of widowers marrying widows, 47 years.

*Social or Conjugal Condition of Persons married in Massachusetts  
in 1865.*

MALES.		FEMALES.				
Number of the Marriage.	Whole Number.	First Marriage.	Second Marriage.	Third Marriage.	Fourth Marriage.	Unknown.
Aggregate, . . .	13,051	11,242	1,658	68	2	81
1st Marriage, . . .	10,585	9,798	772	15	-	-
2d Marriage, . . .	2,136	1,329	764	41	2	-
3d Marriage, . . .	230	110	109	11	-	-
4th Marriage, . . .	18	5	12	1	-	-
5th Marriage, . . .	1	-	1	-	-	-
Unknown, . . .	81	-	-	-	-	81

From this it appears that fifteen women married bachelors for their third husbands; that two women married for the fourth time, in both instances widowers of one previous marriage; that one man married for the fifth time, and eighteen for the fourth time; and that five of the latter class prevailed upon maids to share their fortunes.

The social condition of parties married during the past three years is shown by percentages, thus:—

	First Marriage.	Second Marriage.	Third Marriage.	Fourth Marriage.	Fifth Marriage.	Not stated.
1863, { Males, .	81-89	16-06	1-21	-12	-	-78
{ Females, .	88-05	10-80	-38	-04	-	-78
1864, { Males, .	81-78	15-71	1-78	-12	-02	-59
{ Females, .	87-26	11-50	-60	-05	-	-59
1865, { Males, .	81-10	16-87	1-76	-14	-01	-62
{ Females, .	86-14	12-70	-52	-02	-	-62

The increased percentage of women marrying a second time is a noticeable feature of the above table. It seems probable that this is due to the existence of an unusual number of young widows, caused by loss of life in the public service during four years of war.

*Certain Marriages.—1865.*

AGES OF MALES.	Totals.	AGES OF FEMALES.															
		13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Totals.	689	1	1	31	124	350	67	62	20	11	12	2	2	4	1	1	
17.	14	1	-	-	4	6	1	-	1	-	1	-	-	-	-	-	-
18.	50	-	-	2	1	10	15	9	4	3	2	1	2	1	-	-	-
19.	134	-	-	1	8	20	35	82	15	8	9	1	-	3	1	1	
20.	81	-	-	5	11	28	16	21	-	-	-	-	-	-	-	-	-
21.	86	-	-	7	24	55	-	-	-	-	-	-	-	-	-	-	-
22.	66	-	-	5	13	43	-	-	-	-	-	-	-	-	-	-	-
23.	61	-	-	2	10	49	-	-	-	-	-	-	-	-	-	-	-
24.	44	-	-	2	22	20	-	-	-	-	-	-	-	-	-	-	-
25.	49	-	-	2	11	36	-	-	-	-	-	-	-	-	-	-	-
26.	22	-	-	1	5	16	-	-	-	-	-	-	-	-	-	-	-
27.	15	-	-	-	1	14	-	-	-	-	-	-	-	-	-	-	-
28.	17	-	-	3	8	11	-	-	-	-	-	-	-	-	-	-	-
29.	10	-	-	-	2	8	-	-	-	-	-	-	-	-	-	-	-
30.	15	-	1	1	2	11	-	-	-	-	-	-	-	-	-	-	-
31.	7	-	-	-	2	5	-	-	-	-	-	-	-	-	-	-	-
32.	2	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-
33.	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
34.	2	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-
35.	6	-	-	-	2	4	-	-	-	-	-	-	-	-	-	-	-
36.	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
38.	2	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-
39.	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
41.	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
46.	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
54.	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-

It appears from the foregoing table that there were married in 1865, 14 males of the age of 17, 50 males aged 18, and 134 of the age of 19; and that of the females one was aged 13, another 14, 31 were of the age of 15, 124 aged 16, and 350 aged 17.

There occurred the *fourth* marriage of 18, and the *third* marriage of 230 males. Of females, only 2 were married the *fourth* and 68 the *third* time, while 2,136 males and 1,658 females were married the *second* time. Only one *fifth* marriage is reported—that of a widower of 58 to a widow of 50.

The most remarkable marriages of the year seem to have been, one of a male of 17 years to a female of 13, and another of a bachelor of 85 to a maiden of 65. There occurred also the first marriage of a male of 19 to a widow of 22, and the marriage of a widower of 26 to a widow of the same age.

NATIVITY OF PERSONS MARRIED in the several Counties of the State.—Numbers. 1865.

	Whole State.	Barnstable.	Berkshire.	Bristol.	Dukes.	Foxe.	Franklin.	Hampden.	Hampshire.	Middlesex.	Nantucket.	Norfolk.	Plymouth.	Suffolk.	Worcester.
Marriages, . . . . .	18,061	379	552	895	43	1,772	286	703	865	2,012	55	916	601	2,911	1,561
American, . . . . .	7,776	319	364	607	36	1,128	242	391	262	1,169	51	532	542	1,117	1,016
Foreign, . . . . .	3,823	30	129	203	3	457	31	254	76	609	1	262	36	1,325	407
American Groom and Foreign Bride, .	587	13	15	35	1	75	5	22	12	88	—	43	13	218	47
Foreign Groom and American Bride, .	803	15	43	48	3	103	6	36	11	137	—	72	9	239	31
Nativities not stated, . . . . .	62	2	1	2	—	9	2	—	4	9	3	7	1	12	10



The relative strength of the American and foreign element is not, as we conceive, distinctly shown in this table, as the parentage of the parties married is not given. It is certainly a question admitting of much difference of opinion how long time is required to Americanize the foreigners and their children who settle among us; but if race and religion be made the point of division, it is certain that very many Roman Catholics whose parents were Irish are here classed as Americans, and fully identified with the descendants of the Puritans. It is, perhaps, impossible to distinguish these several classes, but it is important to remember that inferences founded upon such classification as we are compelled to make must be drawn with caution.

**MARRIAGES according to Nativity.—Percentages.**

YEARS.	American.	Foreign.	Am. Groom and For. Bride.	For. Groom and Am. Bride.	[Not stated.
1862, . . . .	62.88	26.56	4.54	4.08	2.44
1863, . . . .	61.34	27.85	4.44	5.14	1.23
1864, . . . .	60.58	28.82	4.52	6.08	.55
1865, . . . .	59.58	29.29	4.49	6.16	.48

In the above table a steady increase in the foreign and diminution in the native marriages during four years is to be remarked. The mixed marriages, if we include the class not stated among them, remain essentially unchanged. The proportion of marriages between foreign grooms and American brides, has, however, notably increased. The following table will show where such marriages chiefly occur:—

*Mixed Marriages.*      •

YEARS.	SUFFOLK.		OTHER COUNTIES.	
	Am. Groom and For. Bride.	For. Groom and Am. Bride.	Am. Groom and For. Bride.	For. Groom and Am. Bride.
1863, . . . .	207	208	276	356
1864, . . . .	235	264	336	497
1865, . . . .	218	239	369	564

It would appear from the above that in Boston the numbers of the two classes of mixed marriages are nearly equal, while in the rest of the State the success of foreign grooms in winning American brides is very much greater. In Berkshire we find forty-three of this class of marriages, with only fifteen instances of an American groom and foreign bride. The domestication of foreign agricultural laborers in the homes of American farmers may be a cause of this.

**NATIVITY of PERSONS Married during Seven Years. *Numbers.***

	1859.	1860.	1861.	1862.	1863.	1864.	1865.
Whole number of Marriages, .	11,475	12,404	10,972	11,014	10,873	12,513	13,051
American, . .	6,575	7,144	6,330	6,871	6,670	7,574	7,776
Foreign, . .	3,650	3,018	3,439	2,926	3,028	3,544	3,823
One party foreign,	951	1,075	1,036	950	1,042	1,332	1,390
Not stated, . .	299	267	167	267	133	163	62

*Percentages of those stated.*

Whole number, .	100-00	100-00	100-00	100-00	100-00	100-00	100-00
American, . .	58-83	58-86	58-58	63-93	62-10	60-53	59-87
Foreign, . .	32-66	32-28	31-83	27-23	28-20	28-32	29-43
One party foreign,	8-51	8-86	9-59	8-84	9-70	10-60	10-70

## DEATHS.

The registered number of deaths in Massachusetts for 1865, together with the numbers and average for the preceding five years, are given in the following table:—

DEATHS registered in Massachusetts. *Numbers.*

	1865.	1860-64.	1864.	1863.	1862.	1861.	1860.
Deaths, .	26,152	25,144	28,723	27,751	22,092	24,085	23,068
Stillborn, .	859	972	903	903	974	1,017	1,062

The number it will be seen is 2,571 less than last year, and 1,599 less than the year before, although greater than the average for five years, by 1,008. In these figures the stillborn are excluded.

The close of the war is doubtless the cause of the diminished mortality in 1865.

The death-rate for the year, based on the census of 1865, is as follows:

Deaths to 100 persons living, . . . . .	2-0640
Persons living to one death, . . . . .	48

The following table of death-rates for the past five years is based on the United States census of 1860, and the State census of 1865, with a proportionate allowance of the difference for each year:—

	1865.	1864.	1863.	1862.	1861.
Deaths to 100 persons living, .	2-0640	2-2798	2-2154	1-7738	1-9456
Persons living to one death, .	48	44	45	56	51

The following table is intended to show the comparative healthfulness of different regions as well as of the several counties.

The divisions are those proposed by Dr. Josiah Curtis in the report for 1857, and have been continued since that year. As they follow geographical sections broadly distinguished by nature, they furnish a more useful basis of comparison than the division by counties. They are thus described by Dr. Curtis: "The *first division* embraces the metropolis, which, in density of population and other particulars differs from any other section of the State; the *second* embraces the northern portion of the sea-coast section, which is quite thickly settled; the *third* is the southern sea-coast district, and is mostly low land, compared with other regions; the *fourth* is more elevated, and embraces that midland region between the sea-coast district and the valley of the Connecticut River; the *fifth* includes the valley, or lands drained by streams entering the river on either side; the *sixth* covers the hills of Berkshire, and, as a whole, comprises the most elevated region, as well as that which is farthest from the sea-coast."

DEATHS registered in Divisions and Counties for 1865. *Rates.*

DIVISIONS AND COUNTIES	Population in 1865.	Deaths to 100 persons living.	Persons living to one death.
Metropolitan, . . . . .	192,817	2-861	42
North-Eastern, . . . . .	379,491	2-042	49
South-Eastern, . . . . .	312,396	2-002	50
Midland, . . . . .	190,782	2-075	49
Valley, . . . . .	135,179	1-945	51
Western, . . . . .	56,944	1-789	56
Whole State, . . . . .	1,267,059	2-064	48
Barnstable County, . . . . .	34,610	1-783	56
Berkshire " . . . . .	56,944	1-789	56
Bristol " . . . . .	89,425	2-045	49
Dukes " . . . . .	4,200	1-548	65
Essex " . . . . .	171,084	2-173	46
Franklin " . . . . .	81,840	1-841	54
Hampden " . . . . .	64,570	1-905	52
Hampshire " . . . . .	89,269	2-093	48
Middlesex " . . . . .	220,384	1-916	52
Nantucket " . . . . .	4,748	2-801	36
Norfolk " . . . . .	116,806	1-915	52
Plymouth " . . . . .	63,107	2-203	46
Suffolk " . . . . .	208,211	2-332	43
Worcester " . . . . .	162,911	2-119	47

## 28      TWENTY-FOURTH REGISTRATION REPORT. [1865.

An examination of the above table shows that while twenty-four in a thousand died in the city of Boston, eighteen in a thousand died in the western division. The other divisions show but slight differences, and correspond very nearly with the rate for the whole State.

The counties stand thus in order of healthfulness: Barnstable, Berkshire, Franklin, Hampden, Norfolk, Middlesex, Bristol, Hampshire, Worcester, Essex, Plymouth, and Suffolk. In Dukes and Nantucket the figures are so small as to be of no value in this regard.

The death-rate in some of the principal cities and towns stands as follows, based upon the population of 1865:—

Barnstable, . . . . .	1·22	Lawrence, . . . . .	2·57
Pittsfield, . . . . .	1·56	Lynn, . . . . .	2·21
Fall River, . . . . .	2·15	Newburyport, . . . . .	1·74
New Bedford, . . . . .	2·12	Salem, . . . . .	2·11
Taunton, . . . . .	2·15	Springfield, . . . . .	1·60
Gloucester, . . . . .	2·45	Lowell, . . . . .	1·86
Haverhill, . . . . .	1·63	Worcester, . . . . .	2·49
Charlestown, . . . . .	2·03	Chelsea, . . . . .	2·08
Roxbury, . . . . .	2·18	Dorchester, . . . . .	1·76

*Seasons.*—It will be seen that the quarters succeed each other in the following order: third, fourth, first, second. This is in accordance with the almost invariable rule.

The months succeed each other in the order of mortality thus: September, August, October, March, July, April, February, January, November, May, December and June.

### DEATHS by Quarters. *Numbers and Percentages.*

	Deaths in 1865.	Percentages.
Deaths registered in the Quarters ending with—		
March, . . . . .	6,247	28·9
June, . . . . .	5,564	21·3
September, . . . . .	7,913	30·8
December, . . . . .	6,404	24·5

*Sex.*—In this respect the year shows a very different result from the three preceding. The proportion of male to female deaths was as 100·47 to 100—13,085 males and 13,024 females.

In 1862, the proportions were 107 males to 100 females.

In 1863,                   “                   “   109   “   100   “

In 1864,                   “                   “   109   “   100   “

For many previous years the proportions were about 100 males to 101 females.

This is another evidence that we are about returning to the same relations which existed previous to the war.

DEATHS in Massachusetts for 1865. *Ages, Sex, Rates.*

	S E X.	Under 1 year.	Under 5 years.	20 to 30.	All others.	Totals.
Number of deaths,	Males, .	2,593	4,812	1,370.	6,903	13,085
	Females,	2,241	4,391	1,478	7,155	13,024
	Totals, .	4,834	9,203	2,848	14,058	26,109
Per cent. of deaths of each sex, . . .	Males, .	19·81	36·78	10·47	52·75	100·
	Females,	17·21	33·71	11·35	54·94	100·
Per cent. for each sex of all deaths,	Males, .	9·93	18·42	5·24	26·43	50·09
	Females,	8·58	16·81	5·66	27·44	49·91
	Totals, .	18·51	35·23	10·90	53·87	100·
Females to 100 males, 1865, . . }	. .	86·4	91·2	107·9	103·6	90·5
Females to 100 males, 1864, . . }	. .	85·6	88·7	78·8	96·3	91·7

DEATHS in Massachusetts, 1856-65.      *Ages, Sex, Rates.*

	SEX.	Under 1 year.	Under 5 years.	20 to 30.	All others.	Totals.
Number of deaths,	Males, .	24,427	46,595	12,078	60,686	119,859
	Females, .	20,088	40,813	13,234	62,904	116,451
	Totals, .	44,515	86,908	25,312	123,590	235,810
Per cent. of deaths of each sex, .	Males, .	20.46	39.04	10.12	50.84	100.
	Females, .	17.25	34.62	11.36	54.02	100.
Per cent. for each sex of all deaths,	Males, .	10.36	19.76	5.18	25.74	50.63
	Females, .	8.52	17.09	5.61	26.67	49.37
	Totals, .	18.88	36.85	10.74	52.41	100.
Fem's to 100 males, {	Males, .	100.	100.	100.	100.	100.
	Females, .	82.2	86.5	109.5	103.6	97.5

An examination of the two preceding tables shows,

1st. That the proportion of male death has greatly diminished in 1865, thus restoring the normal relation of the sexes which in the mortality reports of several previous years had been changed in a remarkable degree.

2d. That between 20 and 30 years of age the proportion of male to female deaths was, in 1864, as 100 to 78.8, and in 1865, as 100 to 107.9.

3d. That of all other deaths above five years of age the proportion of male to female deaths in 1864 was, as 100 to 96.3, and in 1865, as 100 to 103.6.

4th. That in both the ten years table and the one year table, between eighteen and nineteen per cent. of all deaths occur under one year of age, and about thirty-six per cent. under five years of age, and that under five years of age male deaths preponderate from 3.07 to 4.42 per cent.

To make more evident the change which has occurred in the last year in the mortality among men whose ages fitted them to serve their country by land and sea, the following table is given :—

## MORTALITY between the ages of 15 and 50, in 1864 and 1865.

YEARS.	Numbers.		Percentage of each Sex.		Percentage to all Deaths	
	Males.	Females.	Males.	Females.	Males.	Females.
1864, . . .	4,889	4,090	54.2	45.8	16.9	14.3
1865, . . .	3,869	3,970	49.4	50.6	14.8	15.2

It is here seen, that during the past year, while the male deaths diminished 970, the female deaths diminished only 120; that the proportions of the sexes are reversed, there being, in 1864, 8.4 per cent. more male than female deaths; and, in 1865, 1.2 per cent. more female than male deaths; also that the percentage to all deaths has increased .9 of one per cent. among females, and diminished 2.1 per cent. among males.

All this corresponds with the return of peace. The unusual loss of life among able-bodied males, which the last few years of war has brought upon us, is at an end.

The average age of all who died during the year was 28.68 years.

The average age of all who died over twenty years of age, was 51.6.

The following list includes all who died in Massachusetts in 1865, aged over one hundred years.

*Aged over one hundred years—died in 1865.*

Date of Death.	N A M E.	Age.	Place of Death.	Birthplace.	Whether previously married or single.
Feb. 21,	Rosanna Miller, .	100	Boston, .	Somerset, R. I.,	Married.
25,	John Phillips, .	104	Sturbridge, .	Sturbridge, .	Married.
Mar. 15,	Patrick Ward, .	102	Dorchester, .	Ireland, .	Married.
21,	Martha Brown, .	101	Ipswich, .	Ipswich, .	Single.
25,	Betsey Taylor, .	100	Burlington, .	Burlington, .	Married.
Apr. 1,	Mary O'Hara, .	102	Waltham, .	Ireland, .	Married.
18,	Ruth Bowen, .	100	Fall River, .	Westport, .	Single.
May 12,	Hannah Lesure, .	101	Whateley, .	Uxbridge, .	Married.
Aug. 9,	Tamazin Long, .	102	Dennis, .	Harwich, .	Married.
Sept. 24,	Abigail Belcher, .	101	Canton, .	Dedham, .	Married.
25,	Patrick Quirk, .	107	Worcester, .	Ireland, .	Married.
Oct. 20,	Mary Darling, .	102	Medway, .	Wrentham, .	Married.
Dec. 8,	Catrine Tierney, .	100	Lowell, .	Ireland, .	Married.

The number is unusually large. In 1864 there were 6; in 1863, 9; in 1862, 12; and in 1861, 2.



NATIVITY of those whose Deaths were registered in the year 1865.

Nativity.	SEX.	State.	Barnstable.	Berkshire.	Bristol.	Dukes and Nantucket.	Mass.	Franklin.	Hampden.	Hampshire.	Middlesex.	Norfolk.	Plymouth.	Suffolk.	Worcester.
Totals.	Whole number,	26,152	617	1,019	1,829	198	3,716	577	1,230	822	4,223	2,222	1,390	4,856	3,453
	Males,	13,085	323	520	955	91	1,834	258	631	383	2,085	1,073	717	2,481	1,734
	Females,	13,024	293	497	873	107	1,881	318	591	433	2,131	1,144	672	2,373	1,711
	Unknown,	43	1	2	1	-	1	1	8	6	7	5	1	2	8
American.	Whole number,	21,528	586	840	1,556	192	3,215	551	999	704	3,376	1,845	1,221	3,454	2,989
	Males,	10,774	305	437	810	87	1,533	243	521	340	1,670	885	621	1,769	1,503
	Females,	10,717	280	401	745	105	1,681	307	470	361	1,699	955	599	1,683	1,481
	Unknown,	37	1	2	1	-	1	1	8	3	7	5	1	2	5
	Percentage,	82.82	94.98	82.43	85.07	96.97	86.52	95.49	81.22	85.64	79.94	83.04	87.84	71.13	86.56
Foreign.	Whole number,	4,292	23	110	259	4	476	20	195	83	786	360	154	1,383	439
	Males,	2,174	16	63	140	3	239	14	96	35	382	180	89	698	219
	Females,	2,117	7	47	119	1	237	6	99	47	404	180	65	685	220
	Unknown,	1	-	-	-	-	-	-	-	1	-	-	-	-	-
	Percentage,	16.41	3.72	10.80	14.16	2.02	12.81	3.47	15.85	10.10	18.61	16.20	11.08	28.48	12.71
Not stated.	Whole number,	332	8	69	14	2	25	6	36	35	61	17	15	19	25
	Males,	137	2	20	5	1	12	1	14	8	33	8	7	14	12
	Females,	190	6	49	9	1	13	5	22	25	28	9	8	5	10
	Unknown,	5	-	-	-	-	-	-	-	2	-	-	-	-	3
	Percentage,	1.27	1.30	6.77	.77	1.01	.67	1.04	2.93	4.26	1.45	.76	1.08	.89	.73

## NATIVITY of Persons deceased during twelve years, 1854-65.

	1854-9.	1860.	1861.	1862.	1863.	1864.	1865.
Whole number, .	20,996	23,068	24,085	22,974	27,751	28,728	26,152
American, . .	16,880	19,404	20,039	19,190	23,265	24,031	21,528
Foreign, . . .	3,246	3,881	3,544	3,248	3,964	4,297	4,292
Not stated, . .	870	283	502	538	522	485	332
<i>Percentages of those stated.</i>							
American, . .	83-88	85 16	84-97	85-53	85-45	85-10	83-88
Foreign, . . .	16-12	14-84	15-03	14-47	14-55	14-90	16-62

The only comment which it seems necessary to make upon the preceding tables is one of caution with regard to their interpretation. They represent the deaths of those who were *born* upon American or foreign soil. They do not distinguish, as might be supposed from a superficial examination, the deaths among those of native and foreign origin, and can form no groundwork for argument upon the question of the relative increase of either class; and this for the reason that the *parentage* of those who died is not expressed. For instance, an Irish, or German, or any foreign couple of immigrants have a child born to them a week after landing in Massachusetts. In another week the child dies, and from the fact that it was born on American soil it is reckoned an American death.

The original returns from the towns contain, during the last few years, the information necessary to make the tables above referred to most useful and instructive, but up to the present time they have not been analyzed and made available. It is hoped that in future years the Registration Reports will show the parentage in connection with all deaths as well as births. We can then clearly see the relative increase of the native and foreign population.

Meanwhile, a certain amount of definite information on this point may be gained from an examination of the very carefully prepared Report of Births, Marriages and Deaths, in the city of Boston, by Mr. Apollonio, the City Registrar.

# 34      TWENTY-FOURTH REGISTRATION REPORT. [1865.

In 1865, the births and deaths stand thus, the classification of the former being slightly different in the State and city Report.

<i>Births.</i>		<i>Deaths.</i>	
American parentage, .	1,842	American parentage, .	1,245
Foreign, " .	8,230	Foreign, " .	2,868
One parent foreign, and the other native, . .	644	Unknown, . . . .	428
Unknown, . . . .	59		<u>4,541</u>
	<u>5,275</u>		

In 1864, they stood thus :—

<i>Births.</i>		<i>Deaths.</i>	
American parentage, .	1,262	American parentage, .	1,515
Foreign, " .	3,003	Foreign " .	3,340
One parent foreign, and the other native, . .	684	Unknown, . . . .	256
Unknown, . . . .	43		<u>5,111</u>
	<u>4,992</u>		

Now it is very evident that the births of mixed parentage should be equally divided between the two classes. The proper disposition to be made of the "unknown" is not so clear, but we will divide them also equally, both the births and deaths.

The account will then stand thus :—

YEARS.	BIRTHS.		DEATHS.	
	Of American Parentage.	Of Foreign Parentage.	Of American Parentage.	Of Foreign Parentage.
1865, . . . . .	1,693	3,582	1,459	3,082
1864, . . . . .	1,625	3,367	1,643	3,468
Totals, . . . . .	3,318	6,949	3,102	6,550

That is to say, in the last year both classes gained, and in the preceding year both classes lost ground, the aggregates showing

that, in the two years, 216 births, or 6·5 per cent. of the American births, were a gain to the American class, and 399 births, or 5·7 per cent. of the foreign births, were a gain to the foreign class of the population.

This shows that in Boston, containing more than one-quarter of the whole foreign population of the State, the mortality among the foreign class is as excessive as their fecundity, and it seems probable that an analysis of the original returns from all the towns and cities of the Commonwealth, which can be made for the next annual report, will furnish similar results.

That the foreign population is still gaining upon the native, in Massachusetts, is exceedingly probable. The process has been going on with greater or less rapidity for a long period, and its causes are to be found in the emigration of natives and the immigration of foreigners. From every town and village, the stream of native emigration has steadily flowed since the beginning of this century; first to Western New York, then to the North-Western States and the Mississippi Valley, and, as new fields were opened to thrift and enterprise, to the most distant regions of this continent, and to every part of the world. It may be regarded as remarkable under these circumstances that the native population should increase at all, and it is exceedingly probable that but for the removal of natives of other States, chiefly New England, to our manufacturing and commercial centres, it would not take place. Certain it is, that before foreigners began to come among us in large numbers, the population of many towns was stationary, and in not a few instances retrograded. Between 1820 and 1840, eighty towns lost population. In 1850, Dr. Jesse Chickering writes as follows: "In 159 towns, being more than half the whole number in the State, and containing more than a third of the whole population, there has been an aggregate loss of twenty-four persons in the past ten years, 1840 to 1850; and these same towns gained only 5·06 per cent. in the preceding twenty years." All this shows that a great multitude of natives of Massachusetts have found new homes in other regions; and the transfer of population still goes on.

The following remarks upon the rate of mortality in different countries are from an "Address on Public Health," before an association for the promotion of social science, by Dr. Farr, recently published in England:—

“As political economy rests upon the idea of value, so our science rests upon the idea of health, and it is as important to us to find a measure of health as it is to the economist to find a measure of value. That measure must be simple, and applicable to all countries. Now, the measure that is in universal use is the rate of mortality; a unit of life loses a certain fractional part by death every moment, and the amount of loss in a unit of time expresses the rate of mortality. The unit of time is always a year, and the rate of mortality is found by dividing the deaths by the mean numbers living multiplied into the time. The rate varies from .020 to .040 in England; that is, in one place the deaths are 20, in another 40 to 1,000 living. In a normal community, constituted of persons of all ages by an equal number of annual births, there is a fixed mathematical relation between the rate of mortality and the duration of life. Thus, if the average rate of mortality in two cities is two per cent. and four per cent., then the mean duration of the lives of the inhabitants is fifty years in one city, and twenty-five years in the other. Therefore in saying that rate of mortality measures, it is conversely affirmed that length of days measures the health of nations. As the population fluctuates, certain corrections are necessary; the rates of mortality are determined at various ages, and from these the probabilities of living year by year are calculated and set forth in a life table that determines the path every generation passes over from rising to setting. Public health now engages the attention of every civilized State; so we can pass in review the principal populations of Europe, and from the researches of their own statisticians learn by this measure their comparative health. I take the population in the lowest stage of health first, beginning with Russia. That empire is emerging from barbarism. Their death-rate is 86 per thousand. The death-rate of the new kingdom of Italy, is 30. It is a peculiarity of Italy that the population of the country is as unhealthy as that of the towns. The death-rate of Spain is now 28; of Prussia, 29; of Austria, 30; of Norway, 17; of Sweden and Denmark, 22; of Holland, 26; of Belgium, 22; of France, 22; of Great Britain, 22.”

## CAUSES OF DEATH.

*The weather* is important to be noted in connection with the public health.

Through the kindness of the authorities at Harvard, Amherst, and Williams Colleges, we are enabled to give the following table.

MEAN TEMPERATURE of the air, and amount of rain-fall for each month of 1865.

	CAMBRIDGE.		AMHERST.		WILLIAMSTOWN.	
	Mean Temp'ture.	Rain-Fall.	Mean Temp'ture.	Rain-Fall.	Mean Temp'ture.	Rain-Fall.
January, . . .	18.1	4.87	18.7	3.48	17.8	2.79
February, . . .	25.5	4.81	25.0	2.68	22.9	1.04
March, . . .	38.2	4.25	37.1	5.98	36.7	5.29
April, . . .	49.4	2.88	49.0	2.90	48.4	4.10
May, . . .	56.9	6.24	57.1	7.89	55.8	5.45
June, . . .	71.4	2.20	69.8	2.94	68.6	2.93
July, . . .	71.6	3.67	69.0	3.72	65.9	4.83
August, . . .	69.6	1.76	68.6	1.86	66.8	0.64
September, . . .	65.6	1.00	65.6	0.87	63.7	2.07
October, . . .	47.9	5.71	45.9	4.98	43.9	4.77
November, . . .	40.4	3.68	39.9	2.45	37.8	1.78
December, . . .	30.5	3.02	28.9	3.53	29.3	2.12
Mean temperature for year, . . .	48.8	-	47.8	-	46.4	-
Total rain-fall, . . .	-	43.59	-	42.98	-	37.81

It appears from a table contributed by Robert Treat Paine, Esq., to the Eighteenth Registration Report, 1859, that the aver-

age fall of rain and melted snow in Boston for thirty-five years ending with 1859, was 43·29 inches.

The average rain-fall at Greenwich, England, for twelve years, 1848-59, was 23·53 inches.

The hygrometric condition of the atmosphere in the two countries is as follows :

The *force* of vapor is expressed by the fraction of an inch to which a column of mercury is sustained by the existing vapor.

The *humidity* is given in hundredths of complete saturation.

For the American observations we are indebted to Professor Snell, of Amherst College. The English observations are from the Reports of the Registrar-General of England.

	Force of Vapor.	Humidity.
Mean of 15 years, 1852-66, Massachusetts, . . . .	·291	77
Mean of 5 years, 1852-60, England, . . . .	·294	88

Although fever and dysentery prevailed to an unusual degree in certain localities, there was during the year a happy exemption from marked epidemic influence in several diseases which in many former years have been most destructive to life. The result is that, on the whole, the class of zymotic diseases compares favorably with several previous years. The percentage of this class is 31·20, which is less than in any year since 1862. It is still however 2·1 per cent. above the average for the last quarter of a century.

The percentage of constitutional diseases is 24·84, which although slightly greater than the two previous years, is about the usual average. It is particularly gratifying to observe that tubercular diseases, including that terrible destroyer of our race, consumption, show a percentage of 20·74 which is 3·86 per cent. less than the average for twenty-four years and eight months, ending with the present year.

The percentage of local diseases is slightly in excess of previous years.

Developmental diseases are in larger percentage than in the two previous years, but do not vary materially from the average of many preceding.

Violent deaths show a marked decrease, attributable to the happy close of the war; falling in one year from 5.76 to 3.53 per cent. Sixty-one are reported "killed in battle," which is 573 less than the previous year.

Eighty-six males and 16 females lost their lives by railroad accidents. Twenty-nine persons, of whom all but one were males, are reported to have died from starvation; probably nearly all of them in rebel prisons. Fifty-seven males and 21 females committed suicide. There were no judicial executions in 1865. Two men are reported killed by lightning, 11 were lost at sea, 9 men and 2 women were the victims of murder, 2 men died from excessive cold, 14 men and 3 women from excessive heat, and 19 persons died from poison.

Among the diseases whose numbers vary greatly from year to year (all of them in the class of zymotics,) dysentery, typhus fever, and hooping cough prevailed more than in previous years, while the ravages of scarlatina, croup, diphtheria and measles were happily very much diminished. A comparison of the mortality from these seven diseases during the past two years will show how greatly they may vary in successive seasons.

YEARS.	Dysentery.	Typhus.	Whooping. Cough.	Croup.	Diphtheria.	Measles.	Scarlatina.
1864, . .	1,186	1,844	235	768	1,231	320	1,508
1865, . .	1,548	1,694	363	504	672	136	307

The mortality from the ten most destructive diseases in each of the past five years, with the annual average for the whole period, is shown in the following table:—



*Order of Succession of Ten principal Diseases, 1861-65.*

1861.	1862.	1863.	1864.	1865.	Average, 1861-65.
Consumption, Infantile, Pneumonia, Cholera Infantum, Old Age, Typhus, Scarlatina, Brain Disease, Heart Disease, Diphtheria.	Consumption, Scarlatina, Infantile, Pneumonia, Old Age, Typhus, Cholera Infantum, Brain Disease, Heart Disease, Diphtheria.	Consumption, Pneumonia, Typhus, Diphtheria, Scarlatina, Old Age, Infantile, Cholera Infantum, Dysentery, Croup.	Consumption, Pneumonia, Scarlatina, Old Age, Typhus, Infantile, Diphtheria, Cholera Infantum, Dysentery, Apoplexy and Par- alysis.	Consumption, Typhus, Dysentery, Pneumonia, Old Age, Infantile, Cholera Infantum, Heart Disease, Scarlatina, Diphtheria.	. . . 4,570 . . . 1,490 . . . 1,831 . . . 1,812 . . . 1,284 . . . 1,221 . . . 1,186 . . . 980 . . . 926 . . . 771

It will be observed that although a remarkable uniformity appears throughout this record, the list for 1865 is the only one of the five in which precisely the same diseases appear as are given in the five years average. The order for the year however is strikingly changed. Dysentery, which stands as number eight in the five years column, is number three in 1865. Typhus and pneumonia change places. Scarlatina ranks as number nine instead of number six. Consumption always heads the fatal list.

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*The NUMBER of Deaths from several Specified Causes, of each Sex, in each Month, and at Different Specified Periods of Life, which were registered during the year 1865.*

	Diphtheria.	Dysentery.	Typhus.	Measles.	Scarlatina.	Erysipelas.	Croup.	Cholera Infantum.	Teething.	Consumption.	Pneumonia.
Totals,	672	1,548	1,694	136	807	148	504	1,154	315	4,661	1,498
Males,	296	764	856	69	368	81	256	594	152	2,126	766
Females,	374	783	838	67	439	67	248	557	163	2,533	725
Not stated,	2	1	-	-	-	-	-	3	-	2	2
January,	82	12	72	8	125	15	62	5	13	362	190
February,	61	11	66	7	133	17	55	7	12	411	214
March,	59	11	88	12	110	23	51	7	15	458	206
April,	57	15	90	13	83	18	44	7	14	399	160
May,	51	17	88	9	84	15	29	6	11	433	121
June,	45	41	64	17	54	13	15	43	22	347	73
July,	31	187	108	24	36	9	19	236	34	832	49
August,	46	394	147	25	24	5	25	381	66	403	49
September,	41	481	239	7	31	5	26	300	60	389	59
October,	72	300	335	3	34	7	66	135	38	410	104
November,	69	66	256	4	36	11	60	18	13	380	135
December,	58	13	140	7	56	10	52	10	16	835	133
Unknown,	-	-	1	-	1	-	-	-	1	2	-

SEX

MONTHS.

AGES.	Totals,	672	1,548	1,694	186	807	148	504	1,154	315	4,661	1,493
Under 5, .	.	339	838	151	118	487	41	431	1,154	315	306	555
5 to 10, .	.	183	141	125	8	222	3	67	-	-	79	57
10 to 15, .	.	51	36	120	2	56	5	4	-	-	86	28
15 to 20, .	.	24	31	257	3	28	2	-	-	-	398	84
20 to 30, .	.	37	58	364	1	11	10	-	-	-	1,228	92
30 to 40, .	.	16	58	213	1	8	12	1	-	-	846	96
40 to 50, .	.	7	63	135	1	-	11	-	-	-	588	90
50 to 60, .	.	4	78	108	-	2	16	-	-	-	431	148
60 to 70, .	.	6	95	115	1	1	23	-	-	-	867	168
70 to 80, .	.	2	102	63	1	1	18	-	-	-	243	141
Over 80, .	.	-	46	34	-	1	7	1	-	-	58	78
Unknown,	.	3	7	9	-	-	-	-	-	-	31	11

*The PERCENTAGE of Deaths from several Specified Causes, of each Sex, in each Month, and at different Specified Periods of Life, which were registered during the year 1865.*

	Diphtheria.	Dysentery.	Typhus.	Measles.	Scarlatina.	Erysipelas.	Croup.	Cholera Infantum.	Teething.	Consumption.	Pneumonia.
Totals, . . . . .	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00
Males, . . . . .	44-05	49-35	50-58	50-73	45-60	54-73	50-79	51-47	43-25	45-61	51-31
Females, . . . . .	55-55	50-58	49-52	49-27	54-40	45-27	49-21	48-27	51-75	54-35	48-58
Not stated, . . . . .	30	07	-	-	-	-	-	28	-	01	13
January, . . . . .	12-20	78	4-25	5-88	15-49	10-14	12-30	43	4-13	7-77	12-72
February, . . . . .	9-08	71	3-89	5-15	16-49	11-49	10-91	61	3-81	8-82	14-84
March, . . . . .	8-78	71	5-19	8-82	13-63	15-54	10-12	61	4-76	9-83	13-80
April, . . . . .	8-47	97	8-82	9-56	10-28	12-16	8-73	61	4-45	8-56	10-72
May, . . . . .	7-59	1-10	5-19	6-62	10-41	10-13	5-75	52	3-49	9-29	8-10
June, . . . . .	6-70	2-65	3-78	12-50	6-69	8-78	2-98	3-73	6-98	7-41	4-89
July, . . . . .	4-61	12-08	6-38	17-64	4-46	6-08	3-77	20-36	10-79	7-12	3-28
August, . . . . .	6-85	25-45	8-67	18-38	2-97	3-38	4-96	33-01	20-95	9-64	3-28
September, . . . . .	6-10	31-07	14-10	5-15	3-84	3-38	5-16	26-00	19-05	8-35	3-95
October, . . . . .	10-72	19-38	19-77	2-21	4-21	4-73	13-09	11-70	12-06	8-80	6-97
November, . . . . .	10-27	4-26	15-10	2-94	4-46	7-43	11-91	1-56	4-13	8-15	9-04
December, . . . . .	8-63	84	8-26	5-15	6-94	6-76	10-82	86	5-08	7-19	8-91
Unknown, . . . . .	-	-	06	-	13	-	-	-	32	04	-

SEX

MONTHS

	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00
Totals, .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Under 5, .	50-44	53-81	8-91	86-76	60-34	27-70	85-51	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00
5 to 10, .	27-23	9-11	7-38	5-88	27-50	2-03	13-29	-	-	-	-	-	-	-	-	-	-	-	-
10 to 15, .	7-59	2-32	7-09	1-47	6-94	3-38	.80	-	-	-	-	-	-	-	-	-	-	-	-
15 to 20, .	3-57	2-00	15-17	2-21	2-85	1-35	-	-	-	-	-	-	-	-	-	-	-	-	-
20 to 30, .	5-51	3-75	21-48	.74	1-86	6-76	-	-	-	-	-	-	-	-	-	-	-	-	-
30 to 40, .	2-40	3-75	12-57	.74	.87	8-11	.20	-	-	-	-	-	-	-	-	-	-	-	-
40 to 50, .	1-03	4-07	7-97	.74	-	7-43	-	-	-	-	-	-	-	-	-	-	-	-	-
50 to 60, .	.59	5-04	6-88	-	.25	10-81	-	-	-	-	-	-	-	-	-	-	-	-	-
60 to 70, .	.89	6-14	6-79	.73	.13	15-54	-	-	-	-	-	-	-	-	-	-	-	-	-
70 to 80, .	.30	6-59	3-72	.73	.13	12-16	-	-	-	-	-	-	-	-	-	-	-	-	-
Over 80, .	.45	2-97	2-01	-	.13	4-73	.20	-	-	-	-	-	-	-	-	-	-	-	-
Unknown, .	-	.45	.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Agree.

*The NUMBER of Deaths from several Specified Causes, of each Sex, in each Month, and at different Specified Periods of Life, which were registered during the Eleven Years, 1855-65.*

	Diphtheria.	Dysentery.	Typhus.	Malaria.	Scarlatina.	Erysipelas.	Croup.	Cholera Infantum.	Tooth-ache.	Consumption.	Pneumonia.
Totals, . . . . .	4,937	9,482	12,442	2,209	12,692	1,764	6,259	10,243	3,614	50,763	14,090
Males, . . . . .	2,332	4,792	6,654	1,153	6,303	912	3,287	5,417	1,931	22,536	7,473
Females, . . . . .	2,599	4,692	5,775	1,055	6,377	850	2,958	4,801	1,679	28,202	6,601
Not stated, . . . . .	6	28	13	1	12	2	14	25	4	25	16
January, . . . . .	449	92	804	163	1,516	160	687	47	185	4,243	1,624
February, . . . . .	401	83	634	160	1,317	166	617	48	176	4,089	1,594
March, . . . . .	397	87	746	234	1,361	189	634	46	181	4,505	1,931
April, . . . . .	349	116	716	241	1,267	195	540	77	190	4,495	1,605
May, . . . . .	314	123	609	253	1,126	172	446	79	191	4,452	1,283
June, . . . . .	328	192	599	267	1,011	143	340	170	165	3,920	863
July, . . . . .	340	987	748	230	830	119	254	1,489	354	3,362	562
August, . . . . .	318	2,958	1,199	220	698	106	269	4,034	606	4,268	492
September, . . . . .	420	2,974	1,697	111	622	117	362	3,001	728	4,533	604
October, . . . . .	534	1,443	2,017	99	740	106	580	1,013	409	4,255	926
November, . . . . .	523	297	1,536	107	912	136	752	167	214	3,984	1,124
December, . . . . .	559	119	1,117	120	1,286	152	776	64	213	4,107	1,492
Unknown, . . . . .	5	11	20	4	6	3	2	8	2	50	10

SEX.

MONTHS.

1865.]

## SUMMARY OBSERVATIONS.

47

Ages.	Totals.	4,987	9,482	12,442	2,209	12,892	1,764	6,259	10,248	3,614	50,763	14,090
Under 5,	.	2,263	5,760	1,248	1,775	8,809	534	5,416	10,231	3,608	3,878	6,088
5 to 10,	.	1,424	623	799	182	2,854	51	756	12	3	665	518
10 to 15,	.	509	172	796	36	552	46	51	-	3	880	190
15 to 20,	.	215	147	1,664	42	192	54	14	-	-	4,298	313
20 to 30,	.	225	362	2,820	79	136	184	8	-	-	13,194	780
30 to 40,	.	132	348	1,492	32	61	150	5	-	-	9,489	881
40 to 50,	.	56	364	998	17	28	142	2	-	-	6,373	934
50 to 60,	.	31	398	881	11	15	157	1	-	-	4,722	1,090
60 to 70,	.	27	447	806	11	7	204	1	-	-	3,962	1,266
70 to 80,	.	27	516	630	11	4	178	-	-	-	2,617	1,331
Over 80,	.	2	290	229	4	3	98	1	-	-	616	622
Unknown,	.	26	55	84	9	31	16	4	-	-	334	77

\* Diphtheria returned for eight years only.



*The PERCENTAGE of Deaths from several Specified Causes, of each Sex, in each Month, and at different Specified Periods of Life, which were registered during the Eleven Years, 1855-65.*

		Diphtheria*	Dysentery.	Typhus.	Measles.	Scarlatina.	Erysipelas.	Croup.	Cholera Infantum.	Teething.	Consumption.	Pneumonia.
SEX	Totals, .	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00
	Males, .	47-24	50-54	53-48	52-20	49-66	51-70	52-52	52-89	53-43	44-40	53-04
	Females, .	52-64	49-17	46-41	47-76	50-24	48-19	47-26	46-87	46-46	55-55	46-85
	Not stated, .	.12	.29	.11	.04	.10	.11	.22	.24	.11	.05	.11
MONTHS.	January, .	9-10	.97	6-46	7-38	11-95	9-07	10-98	.46	5-12	8-36	11-53
	February, .	8-12	.88	5-10	7-24	10-38	9-41	9-86	.47	4-87	8-05	11-31
	March, .	8-04	.92	5-99	10-59	10-72	10-71	10-13	.45	5-01	8-87	13-71
	April, .	7-07	1-22	5-76	10-91	9-98	11-05	8-63	.75	5-26	8-86	11-89
	May, .	6-36	1-30	4-89	11-45	8-87	9-75	7-12	.77	5-28	8-77	8-96
	June, .	6-64	2-02	4-81	12-09	7-97	8-11	5-48	1-67	4-57	7-72	6-12
	July, .	6-89	10-41	6-01	10-41	6-54	6-75	4-06	14-54	9-79	7-61	3-99
	August, .	6-44	31-20	9-64	9-96	5-50	6-01	4-80	39-38	16-77	8-41	3-49
	September, .	8-51	31-35	13-64	5-03	4-90	6-63	5-78	29-29	20-14	8-93	4-29
	October, .	10-82	15-22	16-21	4-48	5-83	6-01	9-26	9-89	11-32	8-38	6-57
	November, .	10-59	8-13	12-35	4-85	7-18	7-71	12-01	1-63	5-92	7-85	7-98
	December, .	11-32	1-26	8-98	5-43	10-13	8-62	12-41	.62	5-80	8-09	10-59
	Unknown, .	.10	.12	.16	.18	.05	.17	.03	.08	.06	.10	.07

Totals, .	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00
Under 5, .	45-82	60-74	10-08	80-35	69-41	30-27	86-53	99-88	99-84	7-24	43-21	100-00
5 to 10, .	28-84	6-57	6-42	8-24	22-49	2-89	12-08	-12	-08	1-81	3-68	100-00
10 to 15, .	10-81	1-81	6-40	1-63	4-35	2-61	-81	-	-08	1-74	1-35	100-00
15 to 20, .	4-86	1-55	13-37	1-90	1-51	3-06	-22	-	-	8-32	2-22	100-00
20 to 30, .	4-56	3-82	22-67	3-58	1-07	7-60	-13	-	-	25-99	5-54	100-00
30 to 40, .	2-67	3-67	11-99	1-45	-48	8-50	-08	-	-	18-69	6-25	100-00
40 to 50, .	11-14	3-84	7-98	-77	-22	8-05	-08	-	-	12-56	6-63	100-00
50 to 60, .	-63	4-20	7-08	-50	-12	8-90	-02	-	-	9-30	7-74	100-00
60 to 70, .	-55	4-72	6-48	-50	-06	11-56	-02	-	-	7-81	8-98	100-00
70 to 80, .	-55	5-44	5-06	-50	-03	10-09	-	-	-	5-16	9-45	100-00
Over 80, .	-04	3-06	1-84	-18	-02	5-56	-02	-	-	1-22	4-41	100-00
Unknown,	-53	-58	-68*	-40	-24	-91	-06	-	-	-66	-54	100-00

\* Diptheria returned for eight years only

The preceding tables, together with table IX. on page xcv, are full of interest. We shall endeavor to draw from them such information concerning the more prominent diseases as may be readily referred to hereafter.

*Diphtheria.*—This much dreaded disease, unknown or unrecognized among us until within a few years, and from which the mortality was very considerable in 1863 and 1864, seems to be abating its ravages. The whole number of deaths from this cause in 1865, was 672, being about half the average of the two preceding years. Cases are reported at all ages, but one-half (50·44 per cent.) occurred under five years, and more than three-quarters (77·67 per cent.) under ten years of age. The greatest mortality was in January (12·20 per cent.), October (10·72 per cent.) and November (10·27 per cent. ; ) and the least in July (4·61 per cent.) A continuous decline of percentage is observed from January to July. Essex County suffered most, reporting 179 deaths, being 26·6 per cent. of the whole number of deaths from this cause for the State, and 4·87 per cent. of all specified causes for the county. The other counties show a pretty even distribution. Suffolk County, as in previous years, reports but a small proportion of deaths from diphtheria ; one per cent. of all specified diseases.

*Dysentery.*—The mortality from this cause has been unusual, 5·88 per cent. of the whole. This exceeds the average of the past twenty-four years and eight months by ·76 per cent. The percentage to all specified causes of death varies greatly in the counties. Berkshire and Hampshire each 9 per cent. ; Essex and Bristol, each 8 per cent., are highest. Barnstable (4·3,) Middlesex (3·8,) and Suffolk (3·2) are lowest.

Eighty-eight per cent. of the whole number of deaths occurred in July, August, September and October, although cases are reported in each month ; 53·81 per cent. were under five years of age. The average percentage under five years for eleven years past was 60·74. A similar difference was remarked in 1864 ; 52·44 per cent. under five years, while the average for ten years was 62·10. The increased percentage in both years is found in the ages between five and twenty, and in advanced life. No cause for this is apparent.

*Typhus* has shown like dysentery an unusual virulence. One thousand six hundred and ninety-four deaths is a larger number than we find previously recorded, and exceeds by .85 per cent. the average percentage of this disease among all deaths for the past twenty-four years and eight months. The numbers are almost equally divided between the sexes, which is unusual, the males generally predominating. The greatest mortality was in Franklin County, 14 per cent. of all deaths; next Berkshire, (13.4,) Barnstable, (9.3,) Hampshire, (9,) Plymouth, (9,) Hampden, (8.6,) Worcester, (8.4,) Bristol, (7.2,) Essex, (6,) Norfolk, (4.7,) Middlesex, (4.6,) Suffolk, (3.1.) The large cities and towns have evidently suffered comparatively little. The low percentage of Suffolk County, both in this disease and dysentery, is worthy of careful remark.

As regards ages, the greatest number of deaths was, as in all previous years, between 20 and 30; next between 15 and 20; next between 30 and 40. Very nearly one-half (49 per cent.) of the whole number of deaths occurred in the three months of autumn. This shows a peculiar activity of the fever poison at that season, when it prevailed epidemically, and to this influence is to be ascribed the unusual fatality of the disease in the yearly account.

*Measles*.—Only 136 fatal cases are reported. This is .52 per cent. of deaths from all causes, and .43 per cent. less than the average for twenty-four years and eight months. Fifty-seven cases, or .42 per cent. of the whole occurred in Worcester County, 28 in Suffolk, and 17 in Essex. Barnstable, Dukes and Nantucket Counties escaped entirely, while Berkshire and Hampshire report but one each.

One hundred and eighteen (87 per cent.) occurred under five years of age. One is reported between 60 and 70, and one between 70 and 80. Forty-nine deaths, 37 per cent. of the whole number, occurred in July and August.

*Scarlatina*.—The whole number of deaths was only 807; 368 males and 439 females: an unusual predominance of the latter. The percentage to all deaths was 3.06 per cent. Last year it was 5.21 per cent., and the average for a quarter of a century 4.50 per cent. In Dukes and Nantucket, however, it prevailed exten-

sively. Instead of five in 1864 and one in 1863, 53 fatal cases are reported in those counties in 1865, making 27 per cent. of all deaths.

In this connection we may remark that the mortality record for Nantucket and Dukes this year shows 32 deaths from old age and 25 from consumption. Thus to these three causes 56 per cent. of all deaths are assigned. The distribution of scarlatina through the other counties is not remarkable, except that Hampden reports only 7 and Hampshire only 6 deaths from this cause.

Four hundred and eighty-seven (or 60 per cent. of the whole number) were under five years of age; 222 (or 27·5 per cent.) were between 5 and 10; 56 (or 7 per cent.) between 10 and 15; 23 (or 3 per cent.) between 15 and 20; and 19 (or 2·5 per cent.) at greater ages, one being reported over 80, and five above 50.

Seventy-three per cent. of all cases occurred in the first half, and 27 per cent. in the last half of the year; the greatest number (183,) being in February, and thence pretty steadily declining until December.

*Erysipelas*.—Under this head is included phlebitis. Eighty-seven males and 69 females are reported to have died from these causes. The percentage to all deaths is ·59 per cent.; somewhat less than the average. Suffolk County furnishes the largest share, 40, or 25 per cent. of the whole. Next in order is Middlesex, 31, or 20 per cent. of the whole. Franklin and Barnstable report but two each.

Forty-two cases occurred under 5, and 67 above 50 years of age, leaving only 47 between the ages of 5 and 50:

More than half the deaths (107,) took place in the first half of the year. The greatest number (25,) was in March; the least (5,) in September.

*Croup*.—Five hundred and four deaths are reported; 256 males and 248 females. This disease was less prevalent than usual, the percentage to all deaths being 1·91 per cent., which is ·45 less than the average for twenty-four years and eight months. It is also ·52 per cent. less than the average for the previous four years, and a comparison with this latter period seems of more value since it is only recently that the differential diagnosis between croup and diphtheria has been made. Even now, it is

exceeding probable that many cases of these two diseases are confounded. All the counties report cases, and in proportionate numbers, not calling for special remark.

Four hundred and thirty-one cases (85 per cent. of the whole,) occurred under 5 years of age; 67 (13 per cent. of the whole,) between 5 and 10 years; two of the remaining six cases, one between 30 and 40, and one over 80 years of age, should evidently be classed with some other affection, probably diphtheria.

As regards season, it appears that 168 cases occurred in the first quarter, 88 in the second, 70 in the third, and 178 in the fourth quarter of the year. The two middle quarters give 158 cases (31 per cent. of the whole,) and the two extreme quarters 346 cases (69 per cent. of the whole.)

*Cholera Infantum.*—There were 1,154 deaths from this cause; 594 males, 557 females, and three of sex not reported. The percentage to all deaths was 4.38, which corresponds very nearly with the percentage of the past five years, but exceeds the average for twenty-four years and eight months, by 1.21.

Although deaths are reported in every month, 1,094 (95 per cent. of the whole,) occurred in five months, June to October inclusive. The greatest number (381,) was in August. The percentage to all deaths in different counties stands as follows: Barnstable, .8, Berkshire, 1, Bristol, 4.1, Dukes and Nantucket, 2.5, Essex, 4.2, Franklin, 4, Hampden, 4.3, Hampshire, 3.1, Middlesex, 5.4, Norfolk, 5.2, Plymouth, 3.2, Suffolk, 5.1, Worcester, 4.4. As usual, the counties containing large towns and cities suffered most, but the distribution is more equal than has generally been observed in previous years.

*Teething.*—Under this very indefinite head, are classed 315 deaths, with a slight excess of females; 68 per cent. of the whole took place in July, August, September and October, doubtless from a combination with the disease last considered.

*Consumption.*—The number of deaths in 1865 was 4,661; 2,126 males and 2,533 females, and two not stated; 45.63 per cent. of males and 54.37 per cent. of females, or in the proportion of 100 males to 119 females. The percentage of deaths from consumption to deaths from all causes was 17.69. Large as this

seems, it is still less by 2·90 per cent. than the average for twenty-four years and eight months. It is ·21 per cent. larger than the average for the past five years. The mortality in the

First quarter was 1,231 or 26·5 per cent. of the whole.

Second “ “ 1,179 or 25·3 “ “ “

Third “ “ 1,124 or 24·1 “ “ “

Fourth “ “ 1,125 or 24·1 “ “ “

The order of fatality by months stands thus: March, 458, May, 433, February, 411, October, 410, August, 403, April, 399. The least fatal month was July, 382. The general uniformity with which this disease carries off its victims in all the months, is in strong contrast with those we have already reviewed.

Divided by seasons, the deaths were, in

Spring, 1,108 or 23·8 per cent.

Summer, 1,290 or 27·7 “

Autumn, 1,082 or 23·2 “

Winter; 1,179 or 25·3 “

The order of fatality stands summer, winter, spring, autumn; which is unusual, spring generally heading the list.

As regards age, we find that 6·56 per cent. of the whole number were under five years. Doubtless most of these would have been more properly placed under some other head. From 5 to 15 years, only 3·53 per cent. are reported. From this point there is a rapid increase; 8·54 per cent. in the half decade from 15 to 20. The greatest mortality is between 20 and 30, amounting to 26·35 per cent. After 30, a pretty regular decrease of percentage follows through all the ages.

The counties stand as follows in the percentage of deaths from consumption to deaths from all specified causes:—

DEATHS from Consumption in the Counties. 1865. *Percentages.*

COUNTIES.	Population, 1865.	Percentage to Deaths from all Specified Causes.	Persons liv- ing to one Death.
Barnstable, . . . . .	34,610	22.81	249
Berkshire, . . . . .	56,944	17.03	337
Bristol, . . . . .	89,425	18.02	273.3
Dukes and Nantucket, . . . . .	8,948	12.75	358
Essex, . . . . .	171,084	19.86	240
Franklin, . . . . .	31,340	17.54	313.4
Hampden, . . . . .	64,570	18.83	284.4
Hampshire, . . . . .	89,269	17.29	282.5
Middlesex, . . . . .	220,384	18.82	275
Norfolk, . . . . .	116,306	17.64	295.2
Plymouth, . . . . .	68,107	17.18	269.7
Suffolk, . . . . .	208,211	16.27	248
Worcester, . . . . .	162,911	16.09	294.6

The following table is intended to show the influence of sea-board and inland residence upon the percentage of deaths from consumption during the past ten years :—

DEATHS from Consumption by Counties and Regions, 1856–65.  
*Numbers and Percentages.*

COUNTIES.	Deaths from Con- sumption, 1856-65.	Deaths from all Causes, 1856-65.	Per cent of Deaths from Consumption to all Deaths, 1856- 65.
<i>Inland.</i>			
Berkshire, . . . . .	1,511	8,972	16.84
Franklin, . . . . .	1,062	5,650	18.78
Hampden, . . . . .	2,092	11,653	17.95
Hampshire, . . . . .	1,341	7,174	18.69
Middlesex, . . . . .	7,775	39,284	19.80
Norfolk, . . . . .	3,499	18,878	18.53
Worcester, . . . . .	5,714	30,006	19.04
Totals, . . . . .	22,994	121,617	18.91
<i>Seaboard.</i>			
Barnstable, . . . . .	1,299	5,973	21.74
Bristol, . . . . .	3,671	17,639	20.81
Dukes and Nantucket, . . . . .	333	1,868	17.82
Essex, . . . . .	6,719	31,409	21.39
Plymouth, . . . . .	2,798	12,943	21.62
Suffolk, . . . . .	8,199	45,070	18.19
Totals, . . . . .	23,019	114,902	20.03



Grouping together the inland and seaboard counties in the same way we have as the result in 1865 :—

COUNTIES.	Population, 1865.	Deaths from Consumption, 1865.	Persons living to one Death, 1865.
Inland, . . . . .	691,724	2,384	290
Seaboard, . . . . .	575,335	2,277	253

To determine the number living to one death in each year of the ten years, 1856–65, we have taken the population of 1860 as a basis. The average is as follows :—

Inland counties, . . . . .	290 persons.
Seaboard counties, . . . . .	245 persons.

This shows that 118 persons die from consumption in the seaboard counties to every 100 in the inland counties.

*The Geographical Distribution of Consumption* has in previous years engaged the attention of the medical profession in Massachusetts, and has been a subject of frequent discussion in these reports. In 1854, Dr. Henry I. Bowditch addressed inquiries to the members of the Massachusetts Medical Society in every town of the State, asking replies to a series of questions of a broad and general character, as to the prevalence of consumption in their vicinity, the influence of soil, of the weather, of exposure to the various winds, of elevation above the sea, of proximity to the sea, of occupation of the people, &c., &c. The result of these inquiries was reported to the Massachusetts Medical Society in a very original and instructive communication in which the author presented evidence for his belief that moisture, and particularly *soil moisture*, was prominent among the causes of consumption in many localities, and that removal from such places to dry and elevated ground was a remedial and preventive measure of the highest importance.

Subsequently, the late Dr. A. A. Gould, published in the State Registration Reports for 1861 and 1862, an analysis of the United States census for 1850 and 1860, showing very clearly the greater

prevalence of consumption in the Northern than in the Southern States, and a regular series of declining percentages, corresponding with the degrees of latitude, from New England to the Gulf of Mexico. The subject is one which may well engage the attention of the people of Massachusetts, and if by continued investigation in these reports, additional light can be thrown upon the causes of this terrible destroyer of life, and means suggested by which it may be in any degree averted, time and labor will be well spent.

The last table, showing the greater prevalence of consumption in the seaboard than in the interior counties, is striking in its result, and yet inconclusive. If the inland counties were all distant from the sea, and the Atlantic counties all immediately exposed to its influence, it would prove much; but this is not the case. The division is as good a one as could be made by *counties*, yet it is obvious that large portions of Bristol, Essex and Plymouth are not under sea influences, while populous portions of Norfolk and Middlesex really are. Moreover, we have reason to believe from Dr. Bowditch's investigations that certain localities of very limited extent supply a morbid influence, whatever it may be, which determines disease and death. It therefore seemed necessary to make smaller divisions of territory the subject of statistical comparison; the smaller the better, provided the period included was sufficient to furnish significant numbers. With this view we have prepared the following table exhibiting the mortality from consumption in each town of the State for ten years, 1856-65, taking the census of 1860 as a basis for the calculation of percentages, and for the number living annually to one death by that disease. In presenting this table it seems proper to make certain statements, that all who refer to it may form their own estimate of its value, and of the possible errors it may include.

1st. It does not correspond with the official reports of deaths by consumption in the several years. The official report is 46,013 persons; our tabulation, including the State Almshouses, 45,561 persons; making a difference of 452, or about one per cent. of the whole. This discrepancy we can only explain by the general statement that the results are drawn from a careful examination of about seven thousand pages of original manuscript returns from the clerks of towns. These returns are not always clearly written, the nomenclature of disease is imperfectly under-

stood by the writers, and deaths are often credited to two distinct affections. For these reasons it does not seem possible that any two persons tabulating these records could arrive at precisely the same result. Our own examination shows a number slightly less than the official report in every year, and in almost every county for every year.

2d. Allowance may be made for incorrect diagnosis on the part of physicians. It is exceedingly probable that many deaths of children reported from consumption would have been more properly placed under some other heading. It is also probable that a certain number of cases reported as "disease of lungs," should have been called consumption. "Disease of lungs" is intended only to comprise such diseases of those organs as are not otherwise mentioned in the very full statistical nosology furnished to the towns. As, however, the whole number reported under this head in ten years was only 493, the error from this latter source cannot be very great.

3d. The correctness of the reports of town clerks may be questioned. We can say on this point that, although often not clearly written, they almost invariably show that they have been drawn up with much labor and care, and with a conscientious desire to give all the information in the writers' power. This is frequently attested by explanatory notes.

#### DEATHS by Consumption in each Town, 1856-65.

CITIES AND TOWNS.	Population, 1860.	Deaths from all causes in ten years.	Deaths from Consumption in ten years.	Percentage of Deaths by Consumption to Deaths from all causes in ten years.	Average No. of persons living each year to one Death by Consumption.	Order of Mortality.*
<b>BARNSTABLE.</b>						
Barnstable, . . .	5,129	494	112	22.4	458	42
Brewster, . . .	1,489	216	39	18.	382	76
Chatham, . . .	2,710	480	136	28.3	199	328
Dennis, . . .	3,662	580	122	20.7	300	183
Eastham, . . .	779	137	31	22.6	251	269
Falmouth, . . .	2,456	406	105	25.9	234	293
Harwich, . . .	3,423	648	155	23.9	221	309

\* This column represents the order in which the towns appear with respect to mortality from Consumption, No. 1 being least, and No. 333 greatest.

CITIES AND TOWNS.	Population, 1860.	Deaths from all causes in ten years.	Deaths from Consumption in ten years.	Percentage of Deaths by Consumption to Deaths from all causes in ten years.	Average No. of persons dying each year to one death by Consumption.	Order of Mortality.
<b>BARNSTABLE—Con.</b>						
Orleans, . . . .	1,678	347	89	25.6	189	330
Provincetown, . .	3,206	690	124	18.	259	252
Sandwich, . . . .	4,479	807	153	19.	293	199
Truro, . . . . .	1,583	306	47	15.4	337	116
Wellfleet, . . . .	2,322	394	90	22.8	258	255
Yarmouth, . . . .	2,752	459	73	15.9	377	80
<b>BERKSHIRE.</b>						
Adams, . . . . .	6,924	1,216	233	19.1	297	190
Alford, . . . . .	542	60	10	16.6	542	22
Becket, . . . . .	1,578	210	26	12.4	607	17
Cheshire, . . . . .	1,533	158	17	10.7	902	6
Clarksburg, . . . .	420	58	4	7.	1,050	3
Dalton, . . . . .	1,243	192	35	18.2	355	93
Egremont, . . . . .	1,079	143	27	18.8	400	65
Florida, . . . . .	645	95	16	16.8	403	62
Great Barrington, .	3,871	647	106	16.3	365	37
Hancock, . . . . .	816	77	10	13.	316	7
Hinsdale, . . . . .	1,511	269	63	23.4	240	233
Lanesborough, . . .	1,308	195	29	14.9	451	44
Lee, . . . . .	4,420	805	133	16.5	332	124
Lenox, . . . . .	1,711	261	57	21.8	300	184
Monterey, . . . . .	758	136	19	13.9	399	66
Mount Washington, .	321	47	2	4.2	1,605	1
New Ashford, . . . .	239	30	4	13.3	597	18
New Marlborough, . .	1,782	324	41	12.6	435	49
Otis, . . . . .	998	165	17	10.3	587	19
Peru, . . . . .	499	55	11	20.	454	43
Pittsfield, . . . . .	8,045	1,472	233	15.8	345	103
Richmond, . . . . .	914	129	12	9.3	762	11
Sandisfield, . . . .	1,585	211	38	18.	417	55
Savoy, . . . . .	904	137	30	21.9	301	130
Sheffield, . . . . .	2,621	515	93	18.1	232	221
Stockbridge, . . . .	2,136	339	57	16.8	374	81

CITIES AND TOWNS.	Population, 1860.	Deaths from all causes in ten years.	Deaths from Consumption in ten years.	Percentage of Deaths by Consumption to Deaths from all causes in ten yrs.	Average No. of persons living each year to one death by Consumption.	Order of Mortality.
<b>BERKSHIRE—Con.</b>						
Tyringham, . .	780	140	32	22.8	228	302
Washington, . .	948	126	20	15.9	474	35
West Stockbridge, .	1,589	264	39	14.8	407	59
Williamstown, . .	2,611	427	67	15.7	390	72
Windsor, . . . .	839	69	11	15.9	763	10
<b>BRISTOL.</b>						
Acushnet,* . . .	1,387	156	31	19.8	267	240
Attleborough, . .	6,066	1,330	172	12.9	353	101
Berkley, . . . .	825	165	29	17.6	284	218
Dartmouth, . . .	3,883	626	125	19.9	306	170
Dighton, . . . .	1,733	202	39	14.9	444	47
Easton, . . . . .	3,067	560	122	21.8	251	270
Fairhaven,† . . .	3,118	568	103	18.1	302	177
Fall River, . . .	14,026	3,718	734	19.7	191	329
Freetown, . . . .	1,521	293	61	20.8	250	271
Mansfield, . . . .	2,114	317	52	16.4	406	60
New Bedford, . . .	22,300	4,159	967	23.2	231	297
Norton, . . . . .	1,848	293	52	17.7	355	99
Raynham, . . . .	1,746	318	77	24.2	227	305
Rehoboth, . . . .	1,932	373	75	20.1	257	261
Seekonk, . . . . .	2,662	294	69	23.5	387	74
Somerset, . . . .	1,793	352	75	21.3	239	284
Swansey, . . . . .	1,430	183	55	29.3	260	251
Taunton, . . . . .	15,376	2,886	608	21.1	253	265
Westport, . . . .	2,767	419	101	24.1	274	231
<b>DUKES.</b>						
Chilmark, . . . .	654	85	12	14.1	545	21
Edgartown, . . . .	2,118	278	40	14.4	529	28
Tisbury, . . . . .	1,631	350	50	14.3	326	129

\* Six years only.

† Included Acushnet four years.

CITIES AND TOWNS.	Population, 1860.	Deaths from all causes in ten years.	Deaths from Consumption in ten years.	Percentage of Deaths by Consumption to Deaths from all causes in ten years.	Average No. of persons living each year to one Death by Consumption.	Order of Mortality.
<b>ESSEX.</b>						
Amesbury, . . .	8,877	658	135	20.5	287	211
Andover, . . .	4,765	904	206	22.8	281	298
Beverly, . . .	6,154	1,093	253	23.2	248	279
Boxford, . . .	1,020	140	29	20.7	352	102
Bradford, . . .	1,688	271	55	20.3	307	169
Danvers, . . .	5,110	928	196	21.7	261	249
Essex, . . .	1,701	307	57	18.6	299	186
Georgetown, . . .	2,075	823	91	28.1	228	303
Gloucester, . . .	10,904	2,643	402	15.2	271	234
Groveland, . . .	1,448	272	47	17.3	308	165
Hamilton, . . .	789	149	29	19.4	272	233
Haverhill, . . .	9,995	1,494	383	25.6	261	250
Ipswich, . . .	3,300	546	119	21.8	277	228
Lawrence, . . .	17,639	4,127	815	19.7	216	313
Lynn, . . .	19,083	3,586	855	23.9	223	308
Lynnfield, . . .	866	150	30	20.	289	206
Manchester, . . .	1,698	332	70	21.1	243	280
Marblehead, . . .	7,646	1,584	292	18.4	262	243
Methuen, . . .	2,566	390	103	26.4	249	284
Middleton, . . .	940	138	15	10.9	627	15
Nahant, . . .	380	51	4	7.8	950	5
Newbury, . . .	1,444	264	56	21.2	258	256
Newburyport, . . .	13,401	2,153	463	21.5	290	202
North Andover, . . .	2,343	364	78	21.4	300	185
Rockport, . . .	3,237	659	157	23.8	206	323
Rowley, . . .	1,278	247	41	16.6	312	156
Salem, . . .	22,252	4,522	959	21.2	232	296
Salisbury, . . .	3,310	656	180	24.4	207	322
Saugus, . . .	2,024	342	63	18.4	321	133
South Danvers, . . .	6,549	1,112	222	20.	295	195
Swampscott, . . .	1,530	256	53	20.7	288	208
Topsfield, . . .	1,292	204	35	17.1	369	85

CITIES AND TOWNS.	Population, 1860.	Deaths from all causes in ten years.	Deaths from Consumption in ten years.	Percentage of Deaths from all causes in ten yrs. by Consumption.	Average No. of Deaths from all causes in ten yrs. by Consumption.	Order of Mortality.
<b>ESSEX—Con.</b>						
Wenham, . . .	1,105	170	59	34.7	187	331
West Newbury, . .	2,202	374	104	27.8	212	316
<b>FRANKLIN.</b>						
Ashfield, . . .	1,302	226	39	17.2	334	120
Bernardston, . . .	968	165	32	19.4	302	173
Buckland, . . .	1,702	344	43	12.5	396	70
Charlemont, . . .	1,075	174	33	18.9	326	130
Colrain, . . .	1,798	304	79	26.	228	304
Conway, . . .	1,639	307	60	19.5	281	224
Deerfield, . . .	3,073	579	95	16.4	323	137
Erving, . . .	527	102	17	16.6	310	160
Gill, . . .	683	108	22	20.4	310	161
Greenfield, . . .	3,198	600	105	17.5	304	175
Hawley, . . .	671	94	25	26.6	268	237
Heath, . . .	661	111	14	12.6	472	37
Leverett, . . .	964	190	40	21.1	241	282
Leyden, . . .	606	108	12	11.1	505	30
Monroe, . . .	236	29	2	6.9	1,180	2
Montague, . . .	1,593	258	55	21.3	290	203
New Salem, . . .	957	195	33	16.9	290	204
Northfield, . . .	1,712	300	35	28.3	201	327
Orange, . . .	1,322	306	64	20.9	253	266
Rowe, . . .	619	84	8	9.5	774	9
Shelburne, . . .	1,443	278	43	15.5	337	117
Shutesbury, . . .	793	143	31	21.6	258	257
Sunderland, . . .	839	163	30	18.4	280	225
Warwick, . . .	932	165	27	16.4	345	109
Wendell, . . .	704	113	19	16.8	371	83
Whately, . . .	1,057	204	42	20.6	252	267
<b>HAMPDEN.</b>						
Agawam, . . .	1,693	230	52	18.6	326	131
Blandford, . . .	1,256	203	27	13.3	465	39
Brimfield, . . .	1,363	273	53	19.4	257	262

CITIES AND TOWNS.	Population, 1860.	Deaths from all causes in ten years.	Deaths from Consumption in ten years.	Percentage of Deaths by Consumption to Deaths from all causes in ten yrs.	Average No. of persons living each year to one Death by Consumption.	Order of Mortality.
<b>HAMPDEN—Con.</b>						
Chester, . . . .	1,814	142	18	12·7	730	12
Chicopee, . . . .	7,261	1,561	815	20·2	230	299
Granville, . . . .	1,335	260	35	13·5	396	69
Holland, . . . .	419	82	8	9·8	524	25
Holyoke, . . . .	4,997	747	113	15·1	442	48
Longmeadow, . . .	1,376	271	52	10·2	265	242
Ludlow, . . . .	1,174	190	40	21·1	293	200
Monson,* . . . .	3,164	444	87	19·6	364	89
Montgomery, . . .	371	75	16	21·3	282	295
Palmer, . . . .	4,082	464	109	23·5	374	82
Russell, . . . .	605	109	30	27·5	202	326
Southwick, . . . .	1,188	207	40	19·3	297	181
Springfield, . . .	15,199	3,589	565	15·7	269	236
Tolland, . . . .	596	91	15	16·5	397	68
Wales, . . . .	677	115	33	28·7	205	324
Westfield, . . . .	5,055	1,106	199	18·	254	264
West Springfield, .	2,105	481	49	11·4	430	52
Wilbraham, . . . .	2,081	378	53	14·	393	71
<b>HAMPSHIRE.</b>						
Amherst, . . . .	3,206	563	104	18·5	308	167
Belchertown, . . .	2,709	453	101	22·1	268	233
Chesterfield, . . .	897	157	43	27·4	209	317
Cummington, . . .	1,035	166	37	22·3	293	194
Easthampton, . . .	1,916	377	37	9·8	518	27
Enfield, . . . .	1,025	233	49	21·	209	313
Goshen, . . . .	439	89	14	15·7	313	155
Granby, . . . .	907	164	25	15·3	363	90
Greenwich, . . . .	699	162	23	17·2	250	272
Hadley, . . . .	2,105	464	93	20·	226	307
Hatfield, . . . .	1,337	254	47	18·5	285	217
Huntington, . . . .	1,216	154	33	21·4	363	86
Middlefield, . . . .	748	96	18	18·7	416	56

\* Almshouse not included.



CITIES AND TOWNS.	Population, 1860.	Deaths from all causes in ten years.	Deaths from Consumption in ten years.	Percentage of Deaths by Consumption to Deaths from all causes in ten yrs.	Average No. of persons living each year to one Death by Consumption.	Order of Mortality.
<b>HAMPSHIRE—Con.</b>						
Northampton, . . .	6,788	1,480	269	18.8	252	268
Pelham, . . .	748	97	25	25.7	299	187
Plainfield, . . .	639	112	17	15.2	370	84
Prescott, . . .	611	79	17	21.5	360	92
South Hadley, . . .	2,277	398	67	17.1	340	115
Southampton, . . .	1,130	276	40	14.5	282	222
Ware, . . .	3,597	810	168	20.7	214	314
Westhampton, . . .	608	124	19	15.2	320	139
Williamsburg, . . .	2,095	362	54	14.9	388	73
Worthington, . . .	1,041	154	30	19.5	347	106
<b>MIDDLESEX.</b>						
Acton, . . .	1,726	310	48	15.5	359	93
Ashby, . . .	1,091	237	51	21.5	214	315
Ashland, . . .	1,554	312	48	15.4	324	135
Bedford, . . .	843	158	26	16.5	324	136
Belmont,* . . .	1,198	111	13	11.7	645	14
Billerica, . . .	1,776	271	50	18.5	355	100
Boxborough, . . .	403	70	14	20.	288	210
Brighton, . . .	3,375	476	68	14.3	493	32
Burlington, . . .	606	91	12	13.2	505	81
Cambridge, . . .	26,060	5,179	915	17.6	284	219
Carlisle, . . .	621	122	17	13.9	365	83
Charlestown, . . .	25,065	5,069	1,066	21.	235	291
Chelmsford, . . .	2,291	328	34	10.3	673	13
Concord, . . .	2,246	335	72	21.5	312	167
Dracut, . . .	1,881	291	62	21.3	303	176
Dunstable, . . .	487	86	17	19.7	286	215
Framingham, . . .	4,227	693	177	25.5	239	285
Groton, . . .	3,193	608	124	20.4	258	253
Holliston, . . .	3,339	334	88	22.9	379	77
Hopkinton, . . .	4,340	529	113	21.3	384	75
Lexington, . . .	2,329	427	74	17.3	315	151

\* Seven years only.

CITIES AND TOWNS.	Population, 1860.	Deaths from all causes in ten years.	Deaths from Consumption in ten years.	Percentage of Deaths by Consumption to Deaths from all causes in ten yrs.	Average No. of persons living each year to one Death by Consumption.	Order of Mortality.
<b>MIDDLESEX—Con.</b>						
Lincoln, . . .	718	104	14	13.4	513	28
Littleton, . . .	1,063	217	38	17.5	280	226
Lowell, . . .	36,827	6,961	1,554	22.3	237	289
Malden, . . .	5,865	867	156	17.1	398	67
Marlborough, . . .	5,911	868	165	19.	357	95
Medford, . . .	4,842	712	172	24.2	282	223
Melrose, . . .	2,532	400	63	15.7	402	63
Natick, . . .	5,515	894	177	19.8	311	159
Newton, . . .	8,382	980	193	19.7	434	50
North Reading, . . .	1,203	166	37	22.3	325	134
Pepperell, . . .	1,895	354	86	24.3	220	310
Reading, . . .	2,662	471	98	20.8	272	232
Sherborn, . . .	1,129	136	26	19.1	434	51
Shirley, . . .	1,468	251	36	14.3	408	58
Somerville, . . .	8,025	1,396	270	19.3	297	192.
South Reading, . . .	3,207	493	98	19.9	327	128
Stoneham, . . .	3,206	591	109	18.4	294	198
Stow, . . .	1,641	264	52	19.7	315	152
Sudbury, . . .	1,691	251	49	19.5	345	110
Tewksbury,* . . .	1,744	157	33	21.	528	24
Townsend, . . .	2,005	450	71	15.8	283	220
Tyngsborough, . . .	626	122	30	24.6	209	319
Waltham, . . .	6,397	1,148	205	17.8	312	158
Watertown, . . .	3,270	528	98	18.5	334	121
Wayland, . . .	1,188	180	34	18.9	350	104
West Cambridge, . . .	2,681	455	71	15.6	378	78
Westford, . . .	1,624	302.	47	15.6	345	111
Weston, . . .	1,243	141	16	11.3	777	8
Wilmington, . . .	919	151	32	21.2	287	212
Winchester, . . .	1,937	229	41	17.9	472	38
Woburn, . . .	6,287	1,171	206	17.6	305	174

\* Almshouse not included.

CITIES AND TOWNS.	Population, 1860.	Deaths from all causes in ten years.	Deaths from Consumption in ten years.	Percentage of Deaths by Consumption to Deaths from all causes in ten years.	Average No. of persons living each year to one Death by Consumption.	Order of Mortality.
<b>NANTUCKET.</b>						
Nantucket, . . .	6,094	1,153	225	19.5	271	235
<b>NORFOLK.</b>						
Bellingham, . . .	1,313	194	53	27.3	248	275
Braintree, . . .	3,468	550	112	20.3	309	162
Brookline, . . .	5,164	709	116	16.8	445	46
Canton, . . .	3,242	631	96	15.2	337	118
Cohasset, . . .	1,953	351	58	16.5	336	119
Dedham, . . .	6,330	1,233	215	17.4	294	197
Dorchester, . . .	9,769	1,639	284	17.3	344	113
Dover, . . .	679	96	14	14.6	485	33
Foxborough, . . .	2,879	401	69	17.2	417	54
Franklin, . . .	2,172	321	65	20.2	334	123
Medfield, . . .	1,082	153	34	21.5	318	143
Medway, . . .	3,195	610	121	19.8	264	245
Milton, . . .	2,669	469	84	17.9	318	144
Needham, . . .	2,658	400	88	22.	302	179
Quincy, . . .	6,778	1,129	237	21.	286	216
Randolph, . . .	5,760	1,082	312	28.8	184	333
Roxbury, . . .	25,187	5,032	764	15.2	329	126
Sharon, . . .	1,377	234	38	16.2	362	91
Stoughton, . . .	4,330	842	182	21.6	265	243
Walpole, . . .	2,037	327	66	20.1	309	163
West Roxbury, . . .	6,310	658	112	17.	563	20
Weymouth, . . .	7,742	1,319	233	17.6	332	125
Wrentham, . . .	3,408	493	84	17.	405	61
<b>PLYMOUTH.</b>						
Abington, . . .	8,527	1,307	308	23.6	268	239
Bridgewater,* . . .	3,761	559	108	19.3	348	105
Carver, . . .	1,186	205	46	22.4	258	259
Duxbury, . . .	2,597	463	82	17.7	317	146
E. Bridgewater, . . .	3,207	552	134	24.3	239	286
Halifax, . . .	766	107	32	29.9	239	287

\* Almshouse not included.

CITIES AND TOWNS.	Population, 1860.	Deaths from all causes in ten years.	Deaths from Consumption in ten years.	Percentage of Deaths by Consumption from all causes in ten years.	Average No. of persons living each year one in ten by Consumption.	Order of Mortality.
<b>PLYMOUTH—Con.</b>						
Hanover, . . . .	1,565	806	71	23.2	220	311
Hanson, . . . .	1,245	215	55	25.6	226	307
Hingham, . . . .	4,351	810	164	20.2	265	244
Hull, . . . . .	285	88	6	6.8	475	34
Kingston, . . . .	1,655	265	52	19.6	818	145
Lakeville, . . . .	1,160	217	45	20.7	258	260
Marion, . . . . .	918	156	87	23.7	248	276
Marshfield, . . . .	1,870	295	56	19.	334	122
Mattapoisett, . . . .	1,483	297	82	10.8	463	41
Middleborough, . . . .	4,553	767	110	14.3	414	57
N. Bridgewater, . . . .	6,584	1,180	249	21.1	264	246
Pembroke, . . . .	1,524	305	48	15.7	317	147
Plymouth, . . . .	6,272	1,164	240	20.6	261	251
Plympton, . . . .	994	175	19	10.8	523	26
Rochester, . . . .	1,232	176	36	20.5	342	114
Scituate, . . . . .	2,227	393	74	18.8	301	181
South Scituate, . . . .	1,774	302	59	19.5	301	182
Wareham, . . . . .	3,186	443	89	20.1	358	94
W. Bridgewater, . . . .	1,846	326	67	20.6	275	230
<b>SUFFOLK.</b>						
Boston, . . . . .	177,840	42,592	7,767	18.2	229	300
Chelsea, . . . . .	13,395	2,345	434	18.5	309	164
North Chelsea, . . . .	921	76	9	11.8	1,023	4
Winthrop, . . . . .	544	57	17	29.8	320	140
<b>WORCESTER.</b>						
Ashburnham, . . . .	2,108	376	71	18.9	297	193
Athol, . . . . .	2,604	456	69	15.1	377	79
Auburn, . . . . .	914	112	15	13.4	609	16
Barre, . . . . .	2,973	556	97	17.4	306	171
Berlin, . . . . .	1,106	184	32	17.4	346	107
Blackstone, . . . .	5,453	899	178	19.8	306	172
Bolton, . . . . .	1,348	250	45	18.	299	188
Boylston, . . . . .	929	132	20	15.1	464	40

CITIES AND TOWNS.	Population, 1860.	Deaths from all causes in ten years.	Deaths from Consumption in ten years.	Percentage of Deaths by Consumption to Deaths from all causes in ten years.	Average No. of persons living each year to one death by Consumption.	Order of Mortality.
<b>WORCESTER—Con.</b>						
Brookfield, . . .	2,276	419	88	21·	259	253
Charlton, . . .	2,047	339	88	26·	233	294
Clinton, . . .	3,859	765	125	16·4	308	168
Dana, . . .	876	162	35	21·6	250	273
Douglas, . . .	2,442	331	85	25·7	287	213
Dudley, . . .	1,736	321	58	18·1	299	189
Fitchburg, . . .	7,805	1,531	255	16·6	306	173
Gardner, . . .	2,646	410	66	16·1	401	64
Grafton, . . .	4,317	700	121	17·3	356	97
Hardwick, . . .	1,521	263	53	20·2	287	214
Harvard, . . .	1,507	274	48	17·5	314	153
Holden, . . .	1,945	360	79	21·9	246	278
Hubbardston, . . .	1,621	308	55	17·8	295	196
Lancaster, . . .	1,932	298	61	20·4	317	148
Leicester, . . .	2,748	466	86	18·5	320	141
Leominster, . . .	3,522	535	122	22·8	289	207
Lunenburg, . . .	1,212	250	55	22·	220	312
Mendon, . . .	1,351	213	53	24·9	255	263
Milford, . . .	9,132	1,989	389	19·6	235	292
Millbury, . . .	3,296	670	158	23·6	208	321
New Braintree, . . .	805	114	17	14·9	473	36
Northborough, . . .	1,565	255	48	18·8	326	132
Northbridge, . . .	2,633	366	62	16·9	425	53
North Brookfield, . . .	2,760	502	99	19·7	279	227
Oakham, . . .	959	188	47	25·	204	325
Oxford, . . .	3,034	571	127	22·2	239	238
Paxton, . . .	725	152	30	19·7	242	281
Petersham, . . .	1,465	220	55	25·	266	241
Phillipston, . . .	764	149	29	19·5	263	247
Princeton, . . .	1,201	224	38	17·	316	149
Royalston, . . .	1,486	287	71	24·7	209	320
Rutland, . . .	1,076	226	34	15·	316	150
Shrewsbury, . . .	1,558	386	68	17·6	229	301

CITIES AND TOWNS.	Population, 1860.	Deaths from all causes in ten years.	Deaths from Consumption in ten years.	Percentage of Deaths by Consumption to Deaths from all causes in ten yrs.	Average No. of persons living each year to one Death by Consumption.	Order of Mortality.
<b>WORCESTER—Con.</b>						
Southborough, . . .	1,854	282	67	23.8	277	229
Southbridge, . . .	3,575	695	123	17.7	291	201
Spencer, . . .	2,777	512	79	15.4	351	108
Sterling, . . .	1,881	313	87	11.8	508	29
Sturbridge, . . .	2,291	362	73	20.2	314	154
Sutton, . . .	2,676	465	84	18.1	319	142
Templeton, . . .	2,816	466	79	17.	356	96
Upton, . . .	1,986	363	107	29.5	186	332
Uxbridge, . . .	3,133	476	108	22.7	290	205
Warren, . . .	2,107	349	64	18.3	329	127
Webster, . . .	2,912	576	123	21.8	297	290
Westborough, . . .	2,913	500	101	20.2	288	209
West Boylston, . . .	2,509	397	56	14.1	446	45
West Brookfield, . . .	1,548	298	50	16.8	310	133
Westminster, . . .	1,840	313	71	22.3	259	254
Winchendon, . . .	2,624	409	76	18.6	345	112
Worcester, . . .	24,960	6,016	1,011	16.8	247	277

To the above list of towns reporting 44,467 deaths by consumption add,—

Monson Almshouse, . . . . .	106
Tewksbury Almshouse, . . . . .	327
Bridgewater Almshouse, . . . . .	550
Northampton Insane Asylum, (8 years,) . . . . .	26
Pawtucket, before transfer to Rhode Island, . . . . .	82
Gay Head and Gosnold, (1 year,) . . . . .	8

And we have as total deaths from Consumption, in ten years, according to the original records, 45,561.

The following table is intended to place before the eye two groups of towns in the order which they should occupy as having the least and the greatest mortality from consumption. Towns having less than one thousand inhabitants are not here recorded.

<i>Least Mortality.</i>	<i>Greatest Mortality.</i>
Cheshire, . . . . .	Randolph,
Weston, . . . . .	Upton,
Chester, . . . . .	Wenham,
Chelmsford, . . . . .	Orleans,
Belmont, . . . . .	Fall River,
Becket, . . . . .	Chatham,
West Roxbury, . . . . .	Northfield,
Edgartown, . . . . .	Rockport,
Tewksbury, . . . . .	Salisbury,
Easthampton, . . . . .	Millbury,
Sterling, . . . . .	Royalston,*
Brighton, . . . . .	West Newbury,
Winchester, . . . . .	Ware,
Mattapoisett, . . . . .	Ashby,
Blandford, . . . . .	Lawrence,
Barnstable, . . . . .	Hanover,
Lanesborough, . . . . .	Lunenburg,
Brookline, . . . . .	Pepperroll,
Holyoke, . . . . .	Harwich,
Dighton, . . . . .	Lynn,
New Marlborough, . . . . .	Hadley,
Newton, . . . . .	Hanson,
West Springfield, . . . . .	Raynham,
Northbridge, . . . . .	Shrewsbury,
Foxborough, . . . . .	Georgetown.

In the first list of twenty-five towns containing 67,289 inhabitants, there were in ten years 1,380 deaths from consumption. In the second list of twenty-five towns containing 100,741 inhabitants, there were in ten years 4,812 deaths from consumption. In the first list one death occurred annually to 487 persons living. In the second list one death occurred annually to 209 persons living.

This difference it will be seen is exceedingly great. The results seem equally remarkable when single towns are compared ; as for instance Northbridge and Upton, adjoining towns in Worcester County, of nearly equal size and with a similar population, or Weston and Wenham, not very distant from each other, and both occupied by farmers. We have earnestly endeavored to discover

in what respects each of the above groups of towns has common characteristics, and to find broad distinctions separating one group from the other. That we have failed to satisfy our own mind is perhaps not surprising, since the solution of such a question requires an intimate knowledge of a multitude of facts which we do not possess. That causes are in existence for the results above given seems certain, and we commend the comparison of towns and districts to observers throughout the State, confident that what is now obscure will, at some future day, which we hope and believe to be not distant, be apparent to every one. One thing we cannot help regarding as proved by the foregoing analysis. Consumption is very unequally distributed throughout Massachusetts. This conclusion seems unavoidable unless we reject all death returns as valueless, since the disease in question is so marked and positive in its later signs that it seems impossible that it should be mistaken for anything else by observers of average intelligence.

An examination of the reported deaths from consumption in Massachusetts in three periods of five years shows that this disease is becoming less destructive.

#### MORTALITY from Consumption in Three Periods of Five Years.

	1851-55.	1856-60.	1861-65.
Whole number, . . . .	22,091	28,161	22,852
Percentage to all deaths, . .	22.62	21.46	17.54

If it should be objected to this view that the last period was one of war, when the mortality was excessive, thereby reducing the percentage of any disease, attention may be called to the fact that the whole number of cases in these last five years is only 761 (a little more than three per cent.) greater than in the first five years, and actually 301 less than in the middle five years, in spite of the increase of population within these periods.

The cause of this diminished mortality is to be found chiefly in the advance of medical science. The intimate nature of the disease is better understood. Formerly, a patient with consumption was regarded as affected with a local disease of an inflamma-



tory character, and was kept in-doors, carefully protected from the air, and imperfectly nourished. In the light of the present day the disease is understood to be of a general and not of a local character, and to require the utmost amount of fresh and *open* air, daily exercise out of doors, except in very severe and stormy weather, and as much nourishing and stimulating food as can possibly be digested. By such means life is prolonged, and in some instances the disease itself arrested.

The prevention of consumption in those disposed to it by inheritance or otherwise, is in a still greater degree within our power. The free admission of sunlight to our dwellings, and an abundant supply of pure air both by day and by night, are real protections against consumption; and we think it the duty of all who believe these to be established facts, to proclaim and publish them in every possible way.

In this connection we venture to make another observation, which is, that one of the most important discoveries of modern times in its influence upon human life and happiness remains yet to be made in some simple and easily adjusted contrivance by which the fitness, or the degree of unfitness for respiration, of the air of buildings of all sorts, may be measured. The temperature we know, the degree of moisture is almost equally attainable, but the measure of *purity*, of freedom from the products of respiration and of the combustion of various kinds of fuel, and other noxious material with which the air we breathe is constantly mixed, these we have at present no means of indicating with any approach to accuracy. The temporary mental impressions made upon those who feed their lungs upon unwholesome air are utterly untrustworthy, but the results are often distinctly seen in subsequent disease, and especially consumption.

*Pneumonia*.—Seven hundred and sixty-six males and 725 females, and two, sex not stated, died from this cause in 1865.; 1,493 in all. This is 308 less than last year, but differs only by three deaths from the average number for five years past. The percentage to all deaths from specified causes is greater by .70 per cent. than the average for twenty-four years and eight months. The percentages to all specified deaths in the counties stand as follows:—

<i>Inland.</i>		<i>Seaboard.</i>	
Berkshire, . . . . .	6·2	Barnstable, . . . . .	4·
Franklin, . . . . .	6·7	Bristol, . . . . .	4·8
Hampden, . . . . .	6·	Dukes and Nantucket, . .	·05
Hampshire, . . . . .	7·7	Essex, . . . . .	5·8
Middlesex, . . . . .	5·8	Plymouth, . . . . .	4·4
Norfolk, . . . . .	5·5	Suffolk, . . . . .	6·2
Worcester, . . . . .	6·1		

Here is to be remarked a greater prevalence of the disease in the interior. The influence of the ocean in equalizing temperature is probably the cause of the diminished mortality from pneumonia in the Atlantic counties.

As regards season, it appears that the greatest mortality was in February, (214;) next, March, (206,) January, (190,) April, (160,) December, (133.) Through the other months the disease follows the mean temperature; July and August reporting 49 deaths each. The season of melting snow is most fatal. The ten years table furnishes similar results.

As regards age, the greatest mortality (554 cases,) occurred under five years. Five hundred and thirty-five cases occurred over fifty years of age; leaving only 404 cases between the ages of five and fifty.

Pneumonia attacks all ages, and the youthful and robust quite as freely as the old and the feeble, but that it is an especially fatal disease at the extremes of life is apparent from the figures above quoted. In fact, in the whole catalogue of diseases perhaps no one can be found in which strength and vigor of constitution are of so great account in promoting recovery.

*Puerperal Fever and Childbirth.*—Two hundred and two deaths from these causes are reported in 1865. Thirty thousand two hundred and forty-nine children were born alive. The ratio of deaths of mothers to children born alive, is therefore 66 to 10,000. In estimating mortality from the accidents of childbirth, it is thought best to omit any account of stillbirths, as the reports collected only once a year are obviously imperfect in this regard. Two intervals of five years give the following result :—

YEARS.	Children born alive.	Deaths of Mothers.	D'ths of moth- ers to 10,000 children born alive.
1856-60, . . . . .	175,729	1,206	69
1861-65, . . . . .	158,782	1,084	68

*Occupations.*—Table XI. shows the occupation of those above twenty years of age who died during the year. The facts here given will perhaps be put to some good use in the course of a long series of years, but that they throw any clear light upon the healthfulness of different pursuits we do not perceive. In countries where from youth to age the same calling is followed by almost every individual, such inquiries will have much greater value than in Massachusetts, where change of occupation during life is the rule rather than the exception. Could we know the numbers and average age of the living among these various classes of persons, it would add greatly to the value of the table above referred to.

## WAR STATISTICS.

An attempt has been made in previous reports to indicate the numbers of men of Massachusetts who lost their lives in the service of their country during the late war. The reports from towns and cities are entirely unreliable on this point. In many of them such deaths have not been recorded; in most of them very imperfectly. This could hardly be otherwise, since the men died far from their homes.

In 1865, no deaths by disease in the army are reported. This fact is enough to show that no information of value in this respect can be obtained through the State registers, since it is obvious that with more than thirty thousand men in the field for several months, many such deaths must have occurred.

The men of Massachusetts when mustered into the service of the United States were merged in the great army of the republic, and their subsequent history must be found in the records of the War and Navy Departments, and in those of the Adjutant-General of Massachusetts.

The recent report of the Provost-Marshal-General contains a mass of interesting statistical tables from which we extract the following information concerning the fitness for military service of the men of this State in the different congressional districts. The reports are for only a certain period, previous to which the returns of examining officers were not made with such precision as to admit of this classification.

76      **TWENTY-FOURTH REGISTRATION REPORT. [1865.**

**RECORD of Examination of 39,024 Drafted Men and Recruits in  
Massachusetts, 1863, 1864, 1865.**

CONGRESSIONAL DISTRICTS.	Number ex- amined.	Number re- jected.	Ratio rejected per 1,000.	CONGRESSIONAL DISTRICTS.	Number ex- amined.	Number re- jected.	Ratio rejected per 1,000.
No. 1., . . .	3,024	1,254	415	No. 6, . . .	3,000	1,678	559
2., . . .	3,862	1,582	471	7, . . .	2,703	1,048	388
3., . . .	7,114	2,001	281	8, . . .	3,459	1,116	323
4., . . .	5,627	1,945	346	9, . . .	3,405	1,423	418
5., . . .	3,755	1,501	400	10, . . .	3,575	1,279	358

The following table shows the proportion of men found unfit for military service in some of the principal Eastern and Middle States :—

**DRAFTED MEN found unfit under all the Drafts made under the  
Enrolment Act.**

STATES.	Whole number examined.	Ratio exempt per 1,000.
Maine, . . . . .	23,564	365
New Hampshire, . . . . .	10,389	801
Vermont, . . . . .	7,268	318
Massachusetts, . . . . .	36,380	392
New York, . . . . .	115,668	275
New Jersey, . . . . .	26,118	157
Pennsylvania, . . . . .	144,724	227

The following letter from Dr. William J. Dale, Surgeon-General of Massachusetts, concerning the men of this State who lost their lives in rebel prisons, will be found of much interest. It will be seen that, through his constant and diligent efforts, the fate of large numbers of these unfortunate men, which would otherwise have been forever unknown, has been definitely ascertained.

OFFICE OF SURGEON-GENERAL, BOSTON, }  
March 5, 1867. }

DOCTOR :—I have the honor to inform you that the total number of Massachusetts soldiers reported to this office as having died in rebel prisons, is twenty-one hundred and thirty-two (2,132.) On the 26th of April, 1866, at which time I had the honor to address a communication to the late Dr. Augustus A. Gould, which letter was published in the Twenty-Third Massachusetts Registration Report, (1864,) the total number of Massachusetts soldiers reported to this office up to that date, April 26, 1866, was eighteen hundred and seventy-eight, (1,878.) Since that time the official evidence of the death of two hundred and fifty-four (254) Massachusetts soldiers in rebel prisons, has been received. Making the total number at the present time, 2,132. This does not comprise the whole number of Massachusetts soldiers who have died in rebel prisons, and we are constantly in receipt of additional evidence, which, as soon as received, is placed upon our records. The most complete records are those of Andersonville, Ga., and Danville, Va. At Andersonville, our soldiers are buried in separate graves and head-boards mark each grave. There are, however, at Andersonville, four hundred and fifty-one (451) graves, marked "unknown," and no doubt some of these are Massachusetts soldiers, concerning whom there will never be any positive information except, "missing in action," or "died in the hands of the enemy, date and place unknown." The bodies of our soldiers who died at Andersonville, were originally buried in trenches, varying in length from fifty to one hundred and fifty yards. Each soldier as soon as he died was buried in these trenches, and upon his body was fastened a ticket with a number, his name, rank and regiment written upon it. By means of these tickets, the United States officers were enabled to identify the bodies, (with the exception of those marked unknown,) when they were taken from the trenches and placed in separate graves.

The numbers run from 1 to 12,461, and the graves are marked with a neat head-board, giving the number, name, rank, regiment, company, and date of death of twelve thousand four hundred and sixty-one (12,461) United States soldiers, there being but four hundred and fifty-one that bore the sad inscription of "Unknown United States soldiers."

The official list of deaths of Massachusetts soldiers at Danville, Va., was forwarded to this office by Lieut. Colonel S. A. Holman, Medical Director of the 6th Army Corps, formerly Surgeon of the 7th Regiment, Massachusetts Volunteers. This list was copied from the Hospital Register at Danville, Va. There will be no difficulty in identifying the graves of those soldiers buried at Danville, as they are numbered, the same as at Andersonville.

About ten thousand (10,000) United States soldiers died and were buried at Salisbury, N. C., rebel prison. These were buried in trenches and it is impossible to identify their graves. The United States military authorities have enclosed these trenches with a staunch post and board fence. The prison and hospital Records of Salisbury Prison were recovered and are now on file at Washington, D. C., in the office of the Commissary-General of Prisons.

Some of the graves of our soldiers buried at Belle Isle, Va., were marked, and the graves have been identified. At the time of the evacuation of the city of Richmond, Va., by the rebel forces, the register of the prisons was lost or carried off by some persons unknown. Originally, most of the graves in and around Richmond, Va., were marked with the man's name, State and regiment, on a narrow piece of board; but these have been stolen for firewood, or broken off and misplaced, or the name has become illegible, so that in the vast majority of cases it is impossible to find the grave of any particular person.

In regard to the condition of our soldiers buried at Florence, S. C., I have the honor to inform you that our record of deaths at that prison is very unsatisfactory. As far as we can learn there are no records (official) of deaths in that prison, in existence. The only records that we have concerning our soldiers who have died in that prison, have been obtained from returned prisoners, comrades of those who have died, and who have reported their deaths to this office by affidavit. A large proportion of those Massachusetts soldiers who have been exchanged and paroled from the various rebel prisons have reported to this office in person, and from them much valuable information has been obtained. A complete list of Massachusetts soldiers who have been paroled and exchanged from rebel prisons, is now on file in this office.

The following are the names of the principal rebel prisons where our Massachusetts soldiers have died: Andersonville, Ga., Richmond, Va., (Libby, Belle Isle, &c., &c.) Salisbury, N. C., Florence, S. C., Columbia, S. C., (officer's prison,) Millen, Ga., Jacksonville, Fla. Quite a number of Massachusetts soldiers have died in the hospitals at Parole Camp, Annapolis, Md., from effects of ill treatment while in rebel prisons. A complete list of these are on file in this office.

In some of the cases of deaths at Andersonville, Ga., Salisbury, N. C., and Danville, Va., the diseases of which the soldiers died are reported, and they are classified as follows:—

Scorbutus, . . . . .	237
Diarrhœa, . . . . .	396
Dysentery, . . . . .	99

The other diseases reported, are "bronchitis," "pneumonia," "typhoid fever," "intermittent fever," "anasarca," "debility," and "marasmus."

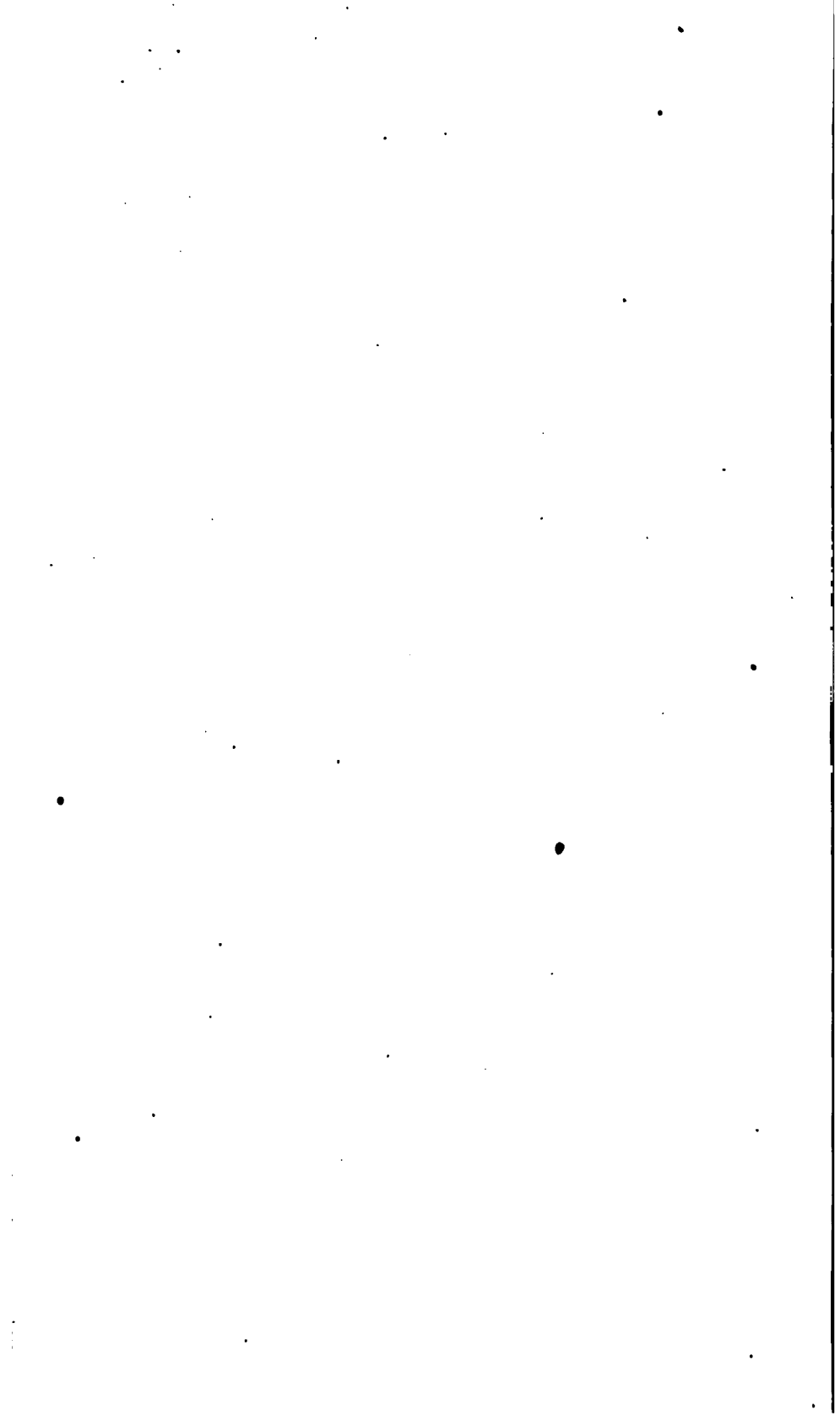
In more than one-half of the cases of deaths in rebel prisons the cause of death is not reported. It is well known that in nearly every instance, the deaths of our soldiers in those prison-pens, were caused by brutal treatment, lack of food and suitable shelter.

Very respectfully, your obedient servant,

WM. J. DALE,  
*Surgeon-General.*

DR. GEORGE DERBY, Boston, Mass.





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(T A B L E S)

XXIV<sup>th</sup>

ANNUAL REPORT

OF

BIRTHS, MARRIAGES, AND DEATHS,

REGISTERED IN

MASSACHUSETTS,

FOR THE YEAR ENDING DECEMBER 31, 1885.

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TABLE I.—POPULATION, 1860—BIRTHS,

*General Abstract, by Counties and Towns, of the Births, Marriages, and with the Population, according to the United States Census for 1860,—Persons Married, and the Sex and the aggregate and average ages of*

THE STATE, AND COUNTIES.	Population. United States Census, 1860.	BIRTHS.								
		Persons.	SEX.			PARENTAGE.				
			M.	F.	Unk.	Am.	For.	Am. Pa. and For. M.	For. Pa. Am. M.	U.
MASACHUSETTS, .	1,231,066	30,249	15,623	14,554	72	13,276	14,139	1,115	1,291	437
BARNSTABLE, .	85,990	771	415	346	10	658	71	11	17	14
BERKSHIRE, .	55,120	1,341	664	674	3	610	607	30	61	33
BRISTOL, .	93,794	1,978	1,030	943	5	1,082	750	46	70	30
DUKES, .	4,403	87	46	40	1	76	6	1	3	1
ESSEX, .	165,611	3,740	1,932	1,749	9	1,971	1,406	156	155	52
FRANKLIN, .	31,434	582	311	270	1	402	153	5	13	9
HAMPDEN, .	57,366	1,561	800	755	6	695	752	37	46	31
HAMPSHIRE, .	37,823	828	413	411	4	402	361	19	25	21
MIDDLESEX, .	216,354	5,380	2,785	2,585	10	2,091	2,729	235	267	58
NANTUCKET, .	6,094	48	31	17	—	39	2	1	4	2
NORFOLK, .	109,950	2,880	1,474	1,399	7	1,165	1,463	108	130	14
PLYMOUTH, .	64,768	1,321	685	635	1	852	363	29	34	43
SUFFOLK, .	192,700	5,735	2,958	2,773	4	1,580	3,399	346	351	59
WORCESTER, .	159,659	3,997	2,029	1,957	11	1,633	2,068	91	115	70

## MARRIAGES, AND DEATHS, 1865.

*Deaths registered in Massachusetts during the year 1865—in connection distinguishing the Sex and the Percentage of Children Born, the Nativity of the number who Died.*

MARRIAGES.							DEATHS.						
Couples.	NATIVITY.					Persons.	Sex.			No. whose ages are registered.	Age.		
	Am.	For.	Am. M. and For. Fe.	For. M. and Am. Fe.	Unk.		M.	F.	U.		Agg'te.	Average.	
13,051	7,776	3,823	587	803	62	26,152	13,035	13,024	43	25,919	743,233	23-63	
379	319	90	13	15	2	617	323	293	1	609	21,356	35-07	
552	364	129	15	43	1	1,019	520	497	2	994	31,757	31-95	
895	607	208	35	48	2	1,829	955	873	1	1,800	54,647	30-36	
43	36	8	1	3	-	65	37	28	-	64	8,010	47-03	
1,772	1,128	457	75	103	9	3,716	1,834	1,881	1	3,694	100,738	27-27	
286	242	31	5	6	2	577	258	318	1	573	21,760	37-97	
703	391	254	22	36	-	1,230	631	591	8	1,209	31,130	25-75	
365	262	76	12	11	4	822	383	433	6	794	24,303	30-61	
2,012	1,169	609	88	137	9	4,223	2,085	2,131	7	4,197	124,745	29-72	
55	51	1	-	-	3	133	54	79	-	133	4,351	32-71	
916	532	262	43	72	7	2,222	1,073	1,144	5	2,201	64,488	29-30	
601	542	36	13	9	1	1,390	717	672	1	1,378	45,894	33-30	
2,911	1,117	1,325	218	239	12	4,856	2,481	2,373	2	4,856	117,705	24-24	
1,561	1,016	407	47	81	10	3,453	1,734	1,711	8	3,417	97,399	28-50	

TABLE I.—*Births, Marriages, and Deaths,*

Counties and Towns.	Population. United States Census, 1860.	BIRTHS.								
		Persons.	SEX.			PARENTAGE.				
			M.	F.	Unk.	Am.	For.	Am. M. and For. Fe.	For. Fa. and Am. M.	Unk.
<b>BARNSTABLE,*</b>	<b>35,990</b>	<b>771</b>	<b>415</b>	<b>346</b>	<b>10</b>	<b>658</b>	<b>71</b>	<b>11</b>	<b>17</b>	<b>14</b>
Barnstable, . . .	5,129	68	29	38	1	58	7	1	1	1
Brewster, . . .	1,489	25	14	11	—	19	2	2	1	1
Chatham, . . .	2,710	65	35	30	—	63	1	1	—	—
Dennis, . . .	3,662	70	31	39	—	63	2	1	4	—
Eastham, . . .	779	13	8	5	—	12	—	—	1	—
Falmouth, . . .	2,456	84	24	9	1	82	—	—	2	—
Harwich, . . .	3,423	79	46	31	—	77	1	—	1	—
Orleans, . . .	1,678	22	11	11	—	22	—	—	—	—
Provincetown, . .	3,206	108	67	41	—	70	29	4	1	4
Sandwich, . . .	4,479	124	68	56	—	93	23	2	3	3
Truro, . . .	1,533	48	27	21	—	44	3	—	—	1
Wellfleet, . . .	2,322	59	23	28	8	52	1	—	2	4
Yarmouth, . . .	2,752	56	30	26	—	53	2	—	1	—
<b>BERKSHIRE, .</b>	<b>55,120</b>	<b>1,341</b>	<b>664</b>	<b>674</b>	<b>3</b>	<b>610</b>	<b>607</b>	<b>30</b>	<b>61</b>	<b>33</b>
Adams, . . .	6,924	269	124	144	1	114	131	4	16	4
Alford, . . .	542	7	3	4	—	5	2	—	—	—
Becket, . . .	1,578	32	15	17	—	15	16	—	1	—
Cheshire, . . .	1,533	37	24	13	—	18	16	1	1	1
Clarksburg, . . .	420	5	3	2	—	3	2	—	—	—
Dalton, . . .	1,243	23	15	8	—	13	10	—	—	—
Egremont, . . .	1,079	14	6	8	—	10	3	—	1	—
Florida, . . .	645	34	18	16	—	17	16	—	1	—
Gt. Barrington, . .	3,871	86	44	42	—	50	30	3	2	1
Hancock, . . .	816	8	4	4	—	4	3	—	1	—
Hinsdale, . . .	1,511	44	27	17	—	10	34	—	—	—
Lanesborough, . .	1,308	38	17	21	—	16	14	2	3	3
Lee, . . .	4,420	94	44	50	—	32	51	1	9	1
Lenox, . . .	1,711	36	17	19	—	16	19	1	—	—
Monterey, . . .	758	13	7	6	—	10	2	—	—	1
Mt. Washington, . .	321	3	2	1	—	3	—	—	—	—
New Ashford, . . .	239	5	3	2	—	4	—	—	—	1
N. Marlborough, . .	1,782	37	17	20	—	21	13	—	1	2
Otis, . . .	998	13	5	8	—	12	1	—	—	—
Peru, . . .	499	3	2	1	—	2	—	—	—	1
Pittsfield, . . .	8,045	258	123	135	—	80	142	11	17	8
Richmond, . . .	914	13	5	8	—	5	7	—	—	1
Sandisfield, . . .	1,535	21	12	9	—	14	6	1	—	—
Savoy, . . .	904	8	8	—	—	7	—	—	1	—
Sheffield, . . .	2,621	61	28	32	1	35	19	2	2	3
Stockbridge, . . .	2,136	37	17	20	—	17	13	3	2	2
Tyringham, . . .	730	13	6	7	—	9	4	—	—	—
Washington, . . .	948	2	1	1	—	2	—	—	—	—
W. Stockbridge, . .	1,569	51	25	26	—	17	30	1	2	1
Williamstown, . . .	2,611	68	37	30	1	41	23	—	1	3
Windsor, . . .	839	8	5	3	—	8	—	—	—	—

\* Including 322 in Marshpee District.

1865.]

## BIRTHS, MARRIAGES, AND DEATHS.

v

*registered during the year 1865—Continued.*

MARRIAGES.						DEATHS.							
Couples.	NATIVITY.					Persons.	Sex.			No. whose ages are registered.	Age.		
	Am.	For.	Am. M. and For Fe.	For. M. and Am. Fe.	Unk.		M.	F.	Unk.		Agg'te.	Average.	
379	319	30	13	15	2	617	323	293	1	609	21,356	35-07	
57	52	1	2	2	-	60	27	33	-	58	2,008	34-62	
14	12	1	1	-	-	33	14	19	-	33	1,144	34-66	
22	22	-	-	-	-	43	21	22	-	43	1,635	38-02	
37	32	1	-	4	-	64	31	33	-	64	2,654	41-47	
5	4	-	1	-	-	15	8	7	-	15	428	28-53	
16	15	-	-	1	-	52	28	24	-	49	2,322	47-39	
62	58	1	2	1	-	48	25	23	-	48	1,511	31-48	
18	18	-	-	-	-	31	17	14	-	31	1,247	40-26	
53	25	19	3	4	2	50	31	19	-	49	1,457	29-73	
41	31	6	3	1	-	90	54	36	-	90	3,352	37-24	
14	12	-	-	2	-	32	19	13	-	32	805	25-16	
21	20	-	1	-	-	51	25	25	1	49	1,333	27-20	
19	18	1	-	-	-	48	23	25	-	48	1,460	30-42	
552	364	129	15	43	1	1,019	520	497	2	994	31,757	31-95	
180	72	35	5	18	-	145	84	61	-	145	3,563	24-57	
1	1	-	-	-	-	7	3	4	-	7	325	46-48	
8	5	3	-	-	-	21	9	12	-	20	623	31-15	
18	11	2	-	-	-	22	8	14	-	22	830	37-73	
1	1	-	-	-	-	10	4	6	-	10	125	12-50	
7	7	-	-	-	-	20	11	9	-	20	665	33-25	
3	2	-	1	-	-	8	3	5	-	8	358	44-75	
3	1	-	1	1	-	10	8	2	-	10	459	45-90	
42	27	10	3	2	-	79	36	43	-	79	2,766	35-01	
2	2	-	-	-	-	12	5	7	-	10	388	38-80	
10	5	4	-	1	-	32	16	16	-	31	910	29-35	
6	3	3	-	-	-	21	11	9	1	21	554	26-38	
37	20	13	2	2	-	120	52	68	-	120	3,324	27-77	
18	9	4	-	-	-	35	21	14	-	35	1,398	39-94	
10	10	-	-	-	-	13	8	5	-	12	374	31-17	
1	1	-	-	-	-	2	2	-	-	2	153	76-50	
3	3	-	-	-	-	3	2	1	-	3	42	14-00	
15	11	3	1	-	-	33	17	16	-	33	936	28-36	
9	9	-	-	-	-	24	14	10	-	24	924	38-50	
3	2	1	-	-	-	10	4	6	-	10	400	40-00	
108	59	35	1	18	-	151	74	77	-	134	4,164	31-07	
3	2	1	-	-	-	12	5	6	1	12	389	32-42	
16	14	-	-	2	-	23	13	10	-	23	964	41-91	
11	11	-	-	-	-	13	7	6	-	13	368	28-31	
28	20	7	-	1	-	54	25	29	-	54	1,648	30-52	
19	15	2	1	-	1	37	22	15	-	37	1,597	43-16	
7	7	-	-	-	-	16	8	8	-	15	503	33-53	
3	3	-	-	-	-	7	5	2	-	7	300	42-86	
5	3	1	-	1	-	23	13	10	-	21	840	40-00	
22	16	5	-	1	-	51	27	24	-	51	1,657	32-49	
13	12	-	-	1	-	5	3	2	-	5	210	42-00	

TABLE I.—*Births, Marriages, and Deaths,*

Counties and Towns.	Population. United States Census, 1860.	BIRTHS.								
		Persons.	Sex.			PARENTAGE.				
			M.	F.	Unk.	Am.	For.	Am. Pa. and For. M.	For. Pa. and Am. M.	Unk.
<b>BRISTOL, . .</b>	<b>93,794*</b>	<b>1,978</b>	<b>1030</b>	<b>943</b>	<b>5</b>	<b>1082</b>	<b>750</b>	<b>46</b>	<b>70</b>	<b>30</b>
Acushnet, . .	1,887	21	14	7	—	20	—	—	—	1
Attleborough, . .	6,066	253	133	120	—	132	107	3	5	6
Berkley, . .	825	15	7	8	—	15	—	—	—	—
Dartmouth, . .	3,883	71	38	33	—	69	—	1	1	—
Dighton, . .	1,733	41	20	18	3	24	13	—	3	1
Easton, . .	3,067	86	54	32	—	88	47	—	—	1
Fairhaven, . .	3,118	43	21	22	—	36	7	—	—	—
Fall River, . .	14,026	364	179	185	—	126	206	11	17	4
Freetown, . .	1,521	20	10	9	1	20	—	—	—	—
Mansfield, . .	2,114	42	17	25	—	27	13	1	1	—
New Bedford, . .	22,300	406	200	206	—	245	119	15	13	9
Norton, . .	1,818	25	20	5	—	13	11	—	1	—
Raynham, . .	1,746	40	19	21	—	32	4	1	1	2
Rehoboth, . .	1,932	30	15	15	—	27	1	—	1	1
Seekonk, . .	2,662	16	9	7	—	15	1	—	—	—
Somerset, . .	1,793	63	39	24	—	32	29	—	2	—
Swansey, . .	1,430	26	15	11	—	21	2	—	3	—
Taunton, . .	15,376	355	189	166	—	134	186	13	17	3
Westport, . .	2,767	61	31	29	1	56	2	1	—	2
<b>DUKES, . .</b>	<b>4,403</b>	<b>87</b>	<b>46</b>	<b>40</b>	<b>1</b>	<b>76</b>	<b>6</b>	<b>1</b>	<b>3</b>	<b>1</b>
Chilmark, . .	654	13	5	7	1	13	—	—	—	—
Edgartown, . .	2,118	41	21	20	—	36	5	—	—	—
Gosnold, †, . .	—	1	—	1	—	1	—	—	—	—
Tisbury, . .	1,631	32	20	12	—	26	1	1	3	1
<b>ESSEX, . .</b>	<b>165,611</b>	<b>3,740</b>	<b>1982</b>	<b>1749</b>	<b>9</b>	<b>1971</b>	<b>1406</b>	<b>156</b>	<b>155</b>	<b>52</b>
Amesbury, . .	3,877	118	58	61	1	49	57	4	5	3
Andover, . .	4,765	135	76	59	—	37	88	7	2	1
Beverly, . .	6,154	130	75	55	—	101	16	10	3	—
Boxford, . .	1,020	22	14	8	—	20	1	—	—	1
Bradford, . .	1,688	26	10	15	1	18	6	2	—	—
Danvers, . .	5,110	143	65	78	—	66	64	7	6	—
Essex, . .	1,701	34	20	12	2	25	5	2	2	—
Georgetown, . .	2,075	28	14	14	—	22	5	1	—	—
Gloucester, . .	10,904	264	140	124	—	134	85	19	24	2
Groveland, . .	1,448	36	18	18	—	20	12	1	2	1
Hamilton, . .	789	7	3	4	—	4	2	—	—	1
Haverhill, . .	9,995	250	140	109	1	149	74	7	16	4
Ipswich, . .	3,300	62	26	36	—	57	2	3	—	—
Lawrence, . .	17,639	604	330	274	—	97	473	12	20	2
Lynn, . .	19,083	557	288	269	—	315	193	30	15	4
Lynnfield, . .	866	10	6	4	—	6	2	—	1	1

\* Including 4,200 in Pawtucket, set off in 1861 to Rhode Island. † Incorporated March 17, 1864.

*registered during the year 1865—Continued.*

MARRIAGES.						DEATHS.							
Couples.	NATIVITY.					Persons.	Sex.			No. whose ages are registered.	Ages.		
	Am.	For.	Am. M. and For Fa.	For. M. and Am Fa.	Unk.		M.	F.	Unk.		Agg'te.	Average.	
895	607	203	35	48	2	1,829	955	873	1	1,800	54,647	30.38	
9	9	-	-	-	-	20	13	7	-	20	955	47.75	
52	45	8	3	-	1	141	67	74	-	140	3,689	26.35	
16	16	-	-	-	-	18	10	7	1	18	680	38.28	
30	27	1	-	2	-	66	37	29	-	66	2,687	40.71	
20	18	1	1	-	-	28	13	15	-	25	1,008	40.32	
9	9	-	-	-	-	65	37	28	-	65	2,162	33.26	
14	13	-	-	1	-	55	30	25	-	55	1,854	33.71	
209	91	84	11	23	-	376	179	197	-	375	9,532	25.42	
11	11	-	-	-	-	25	16	9	-	24	853	35.54	
17	16	-	1	-	-	34	18	16	-	34	1,530	45.00	
274	181	67	7	18	1	443	242	201	-	436	12,238	28.07	
13	13	-	-	-	-	30	16	14	-	30	1,291	43.03	
13	13	-	-	-	-	31	17	14	-	31	1,072	34.58	
17	16	-	1	-	-	39	13	26	-	39	1,452	37.23	
3	3	-	-	-	-	17	9	8	-	17	967	56.88	
7	7	-	-	-	-	34	22	12	-	31	1,033	33.23	
13	13	-	-	-	-	29	14	15	-	29	919	31.69	
157	96	47	10	4	-	345	187	158	-	333	9,341	28.05	
11	10	-	1	-	-	33	15	18	-	32	1,375	42.97	
43	36	3	1	3	-	65	37	28	-	64	3,010	47.03	
6	6	-	-	-	-	9	8	1	-	9	464	51.56	
23	18	2	-	3	-	25	12	13	-	24	1,306	54.42	
1	1	-	-	-	-	2	1	1	-	2	74	37.00	
13	11	1	1	-	-	29	16	13	-	29	1,166	40.21	
1,772	1,128	457	75	103	9	3,716	1,834	1,881	1	3,694	100,738	27.27	
38	26	6	-	5	1	129	63	66	-	129	3,096	24.00	
51	26	22	1	2	-	107	51	56	-	107	3,141	29.86	
43	33	3	1	4	2	86	41	45	-	84	3,040	36.19	
3	3	-	-	-	-	16	4	12	-	16	532	39.50	
9	7	-	1	1	-	34	16	18	-	34	1,195	35.15	
40	25	10	3	2	-	91	33	58	-	91	2,516	27.65	
10	10	-	-	-	-	23	12	11	-	23	525	22.79	
13	12	-	1	-	-	41	25	16	-	40	1,582	39.55	
152	64	61	14	12	1	293	160	133	-	288	6,608	22.94	
11	10	-	-	1	-	42	19	22	1	41	1,067	26.02	
3	2	-	-	1	-	13	10	3	-	13	596	45.85	
118	85	21	5	7	-	175	89	86	-	172	5,029	29.24	
32	29	2	1	-	-	73	29	44	-	73	3,099	42.45	
323	121	164	14	22	2	557	264	293	-	557	9,695	17.41	
188	160	7	8	11	2	459	219	240	-	455	11,382	25.02	
4	4	-	-	-	-	16	9	7	-	16	711	44.44	



TABLE I.—*Births, Marriages, and Deaths,*

Counties and Towns.	Population. United States Census, 1860.	BIRTHS.								
		Persons.	SEX.			PARENTAGE.				
			M.	F.	Unk.	Am.	For.	Am. Pa. and For. M.	For. Pa. and Am. M.	Unk.
ESSEX—Con.										
Manchester, . . .	1,698	25	15	10	-	12	8	8	1	1
Marblehead, . . .	7,646	205	116	89	-	149	41	8	7	-
Methuen, . . .	2,566	45	23	22	-	29	13	1	-	2
Middleton, . . .	940	11	8	3	-	8	1	2	-	-
Nahant, . . .	880	10	6	4	-	6	4	-	-	-
Newbury, . . .	1,444	24	12	12	-	19	4	-	-	1
Newburyport, . .	13,401	184	105	78	1	103	59	6	9	7
North Andover, . .	2,343	43	22	21	-	19	17	8	4	-
Rockport, . . .	3,237	93	47	46	-	67	10	7	7	2
Rowley, . . .	1,278	20	9	11	-	17	3	-	-	-
Salem, . . .	22,252	242	135	107	-	172	33	7	11	19
Salisbury, . . .	3,310	79	36	43	-	53	18	4	4	-
Saugus, . . .	2,024	36	15	18	3	24	5	3	4	-
South Danvers, . .	6,549	171	86	85	-	91	70	5	5	-
Swampscott, . . .	1,530	48	26	22	-	28	14	1	5	-
Topsfield, . . .	1,292	21	11	10	-	18	2	-	1	-
Wenham, . . .	1,105	21	9	12	-	18	3	-	-	-
West Newbury, . .	2,202	36	20	16	-	18	16	1	1	-
FRANKLIN, .										
	31,434	582	311	270	1	402	153	5	13	9
Ashfield, . . .	1,302	9	5	4	-	8	1	-	-	-
Barnardston, . . .	968	17	7	10	-	17	-	-	-	-
Buckland, . . .	1,702	47	32	15	-	17	24	-	4	2
Charlemont, . . .	1,075	4	2	2	-	4	-	-	-	-
Colrain, . . .	1,798	25	14	11	-	24	1	-	-	-
Conway, . . .	1,639	38	21	17	-	27	9	1	1	-
Deerfield, . . .	3,073	85	50	35	-	34	48	-	2	1
Erving, . . .	527	6	5	1	-	5	1	-	-	-
Gill, . . .	683	11	7	4	-	9	1	-	-	1
Greenfield, . . .	3,198	88	49	39	-	51	30	2	4	1
Hawley, . . .	671	18	9	9	-	17	-	1	-	-
Heath, . . .	661	15	7	8	-	12	2	-	1	-
Leverett, . . .	964	10	4	6	-	9	-	-	-	1
Leyden, . . .	606	11	5	6	-	9	1	-	-	1
Monroe, . . .	236	4	1	3	-	4	-	-	-	-
Montague, . . .	1,593	29	13	16	-	20	9	-	-	-
New Salem, . . .	957	15	6	8	1	14	1	-	-	-
Northfield, . . .	1,712	25	15	10	-	15	7	-	1	2
Orange, . . .	1,622	26	17	9	-	23	8	-	-	-
Rowe, . . .	619	7	4	3	-	7	-	-	-	-
Shelburne, . . .	1,448	34	13	21	-	23	10	1	-	-
Shutesbury, . . .	798	15	8	7	-	15	-	-	-	-
Sunderland, . . .	839	15	6	9	-	15	-	-	-	-
Warwick, . . .	932	12	7	5	-	11	1	-	-	-
Wendell, . . .	704	4	-	4	-	4	-	-	-	-
Whately, . . .	1,057	12	4	8	-	8	4	-	-	-

registered during the year 1865—Continued.

MARRIAGES.						DEATHS.							
Couples.	NATIVITY.					Persons.	Sex.			No. whose ages are registered.	Age.		
	Am.	For.	Am. M. and For. Fe.	For. M and Am. Fe.	Unk.		M.	F.	Unk.		Agg'te.	Average.	
17	15	1	-	1	-	33	15	18	-	33	1,033	31-30	
80	58	18	1	3	-	247	132	115	-	247	5,990	24-25	
24	24	-	-	-	-	66	34	32	-	66	1,681	25-47	
16	15	-	-	1	-	9	6	3	-	9	390	43-33	
1	1	-	-	-	-	4	2	2	-	4	50	12-50	
14	13	-	-	1	-	30	17	13	-	30	1,185	39-50	
164	95	53	7	8	1	226	92	134	-	225	7,638	33-95	
16	9	2	1	4	-	44	26	18	-	44	1,594	36-23	
32	27	1	3	1	-	69	40	29	-	67	1,735	25-90	
10	10	-	-	-	-	28	13	15	-	28	1,249	44-61	
223	129	78	9	7	-	448	231	217	-	447	13,750	30-76	
41	36	2	-	3	-	103	53	50	-	103	2,913	28-28	
12	6	1	2	3	-	41	27	14	-	40	1,415	35-37	
46	41	1	1	3	-	108	50	58	-	108	3,076	28-48	
8	5	2	1	-	-	22	11	11	-	22	586	26-64	
3	3	-	-	-	-	20	12	8	-	19	636	36-11	
10	10	-	-	-	-	12	6	6	-	12	372	31-00	
17	14	2	1	-	-	51	23	28	-	51	1,581	31-00	
286	242	31	5	6	2	577	258	318	1	573	21,760	37-97	
10	10	-	-	-	-	13	6	7	-	13	742	57-07	
22	21	1	-	-	-	11	6	5	-	11	449	40-82	
18	11	7	-	-	-	51	28	23	-	51	1,189	23-31	
9	8	-	-	-	1	11	5	6	-	11	472	42-91	
25	23	-	2	-	-	34	18	16	-	34	1,518	44-65	
13	15	2	1	-	-	31	12	19	-	31	1,177	37-97	
11	9	1	-	1	-	41	17	24	-	41	1,187	28-95	
7	5	-	-	2	-	11	7	4	-	11	368	33-45	
11	11	-	-	-	-	9	3	6	-	9	512	56-89	
39	21	15	2	1	-	50	24	26	-	48	1,577	32-86	
1	1	-	-	-	-	10	3	7	-	10	579	57-90	
4	3	1	-	-	-	14	8	6	-	14	767	54-79	
4	4	-	-	-	-	18	8	10	-	18	698	38-78	
4	4	-	-	-	-	9	2	7	-	9	260	28-89	
4	4	-	-	-	-	2	1	1	-	2	145	77-50	
21	20	1	-	-	-	19	12	7	-	19	885	41-32	
11	11	-	-	-	-	28	12	16	-	28	1,392	49-71	
10	9	1	-	-	-	33	9	24	-	33	1,359	41-18	
20	19	-	-	1	-	45	17	28	-	44	1,352	30-73	
4	3	-	-	1	-	8	4	4	-	8	485	60-62	
8	6	2	-	-	-	38	15	23	-	38	1,071	28-18	
4	4	-	-	-	-	16	5	11	-	16	719	44-94	
6	6	-	-	-	-	22	8	14	-	21	973	46-33	
7	6	-	-	-	1	24	13	10	1	24	816	34-00	
2	2	-	-	-	-	15	11	4	-	15	537	35-80	
6	6	-	-	-	-	14	4	10	-	14	531	37-93	

TABLE I.—*Births, Marriages, and Deaths,*

Counties and Towns.	Population. United States Census, 1860.	BIRTHS.								
		Persons.	SEX.			PARENTAGE.				
			M.	F.	Unk.	Am.	For.	Am.Fa. and For. M.	For.Fa. and Am. M.	Unk.
<b>HAMPDEN, .</b>	<b>57,366</b>	<b>1,561</b>	<b>800</b>	<b>755</b>	<b>6</b>	<b>695</b>	<b>752</b>	<b>87</b>	<b>46</b>	<b>31</b>
Agawam, . . .	1,698	41	25	15	1	19	20	2	-	-
Blandford, . . .	1,256	23	7	16	-	20	1	1	-	1
Brimfield, . . .	1,363	27	11	15	1	17	8	2	-	-
Chester, . . .	1,314	10	8	7	-	8	1	1	-	-
Chicopee, . . .	7,261	198	89	108	1	54	136	1	7	-
Granville, . . .	1,385	31	16	15	-	21	5	2	2	1
Holland, . . .	419	10	6	4	-	8	2	-	-	-
Holyoke, . . .	4,997	136	77	59	-	29	99	3	5	-
Longmeadow, . . .	1,376	39	22	17	-	24	12	1	-	2
Ludlow, . . .	1,174	26	12	14	-	14	9	1	-	2
Monson, . . .	3,164	68	32	36	-	41	27	-	-	-
(St. Almshouse,)	-	27	14	13	-	4	21	-	-	2
Montgomery, . . .	371	11	7	4	-	9	1	1	-	-
Palmer, . . .	4,082	85	45	40	-	38	42	1	3	1
Russell, . . .	605	3	2	1	-	2	1	-	-	-
Southwick, . . .	1,188	16	11	5	-	14	2	-	-	-
Springfield, . . .	15,199	546	279	267	-	232	269	17	24	4
Tolland, . . .	596	10	9	1	-	5	5	-	-	-
Wales, . . .	677	13	10	3	-	12	1	-	-	-
Westfield, . . .	5,055	119	63	53	3	55	48	-	2	14
W. Springfield, . .	2,105	69	33	36	-	31	34	2	1	1
Wilbraham, . . .	2,081	53	27	26	-	38	8	2	2	3
<b>HAMPSHIRE, .</b>	<b>37,823</b>	<b>828</b>	<b>413</b>	<b>411</b>	<b>4</b>	<b>402</b>	<b>361</b>	<b>19</b>	<b>25</b>	<b>21</b>
Amherst, . . .	3,206	74	32	42	-	55	17	1	1	-
Belchertown, . . .	2,709	23	15	13	-	20	5	2	-	1
Chesterfield, . . .	897	7	2	5	-	6	1	-	-	-
Cummington, . . .	1,085	14	6	8	-	12	1	1	-	-
Easthampton, . . .	1,916	62	34	28	-	19	37	2	2	2
Enfield, . . .	1,025	18	11	7	-	11	3	1	-	3
Goshen, . . .	439	7	3	4	-	7	-	-	-	-
Granby, . . .	907	15	8	7	-	12	3	-	-	-
Greenwich, . . .	699	10	4	6	-	9	-	-	-	1
Hadley, . . .	2,105	63	36	27	-	23	38	-	2	-
Hatfield, . . .	1,337	38	15	23	-	9	23	2	4	-
Huntington, . . .	1,216	12	6	6	-	8	4	-	-	-
Middlefield, . . .	748	20	10	10	-	7	9	-	3	1
Northampton, . . .	6,788	271	131	136	4	87	155	8	13	8
Pelham, . . .	748	3	2	1	-	3	-	-	-	-
Plainfield, . . .	639	9	4	5	-	7	1	-	-	1
Prescott, . . .	611	5	3	2	-	5	-	-	-	-
South Hadley, . . .	2,277	34	22	12	-	22	10	1	-	1
Southampton, . . .	1,130	25	12	13	-	15	9	-	-	1
Ware, . . .	3,597	26	13	13	-	14	10	1	-	1
Westhampton, . . .	603	20	12	8	-	13	7	-	-	-

registered during the year 1865—Continued.

MARRIAGES.						DEATHS.							
Couple.	NATIVITY.					Persons.	Sex.			No. whose ages are registered.	Age.		
	Am.	For.	Am. M. and For. Fe.	For. M. and Am. Fe.	Unk.		M.	F.	Unk.		Agg'te.	Average.	
703	391	254	22	86	-	1,230	631	591	8	1,209	31,130	25-75	
8	7	1	-	-	-	22	10	11	1	22	815	37-05	
6	5	-	-	1	-	20	12	8	-	20	670	33-50	
9	9	-	-	-	-	23	14	9	-	23	742	32-26	
12	10	1	1	-	-	14	7	7	-	14	532	38-00	
94	41	45	3	5	-	193	97	96	-	192	1,463	22-72	
8	7	-	1	-	-	27	10	17	-	27	941	38-55	
1	1	-	-	-	-	9	4	5	-	7	406	58-00	
138	23	107	2	6	-	121	69	51	1	118	2,186	18-53	
14	13	-	1	-	-	30	14	16	-	29	1,038	35-79	
8	5	-	1	2	-	20	9	8	3	20	656	32-80	
24	23	-	-	1	-	40	20	20	-	40	1,633	40-82	
-	-	-	-	-	-	92	54	38	-	92	1,928	20-96	
5	5	-	-	-	-	4	2	2	-	4	178	44-50	
59	32	21	3	8	-	50	25	25	-	50	1,510	30-20	
6	5	1	-	-	-	8	5	3	-	6	289	48-17	
5	4	-	-	1	-	12	7	5	-	11	662	60-18	
230	142	69	8	11	-	353	181	172	-	352	8,848	25-14	
2	2	-	-	-	-	3	-	3	-	3	142	47-33	
7	6	-	-	1	-	7	2	5	-	7	360	51-42	
38	27	7	2	2	-	102	48	51	3	94	3,613	38-43	
14	11	2	-	1	-	51	22	29	-	51	1,550	30-39	
15	18	-	-	2	-	29	19	10	-	27	968	35-85	
365	262	76	12	11	4	822	383	433	6	794	24,303	30-61	
27	27	-	-	-	-	60	31	29	-	60	2,255	37-58	
21	21	-	-	-	-	38	19	16	3	82	1,233	38-53	
11	11	-	-	-	-	13	8	5	-	13	430	32-31	
14	18	-	1	-	-	22	13	9	-	22	1,106	50-27	
22	16	3	2	-	1	70	32	38	-	70	1,790	25-57	
12	11	1	-	-	-	28	12	16	-	25	762	30-48	
2	2	-	-	-	-	9	4	5	-	9	400	44-44	
5	5	-	-	-	-	18	5	13	-	18	675	37-50	
6	5	-	-	1	-	24	13	11	-	24	1,123	46-79	
15	14	-	-	1	-	78	39	39	-	77	1,915	24-87	
4	3	1	-	-	-	25	8	17	-	25	759	30-36	
11	6	4	-	1	-	20	8	11	1	16	362	22-62	
5	3	1	1	-	-	14	8	6	-	14	408	29-14	
98	58	28	5	5	2	195	87	107	1	183	4,657	25-45	
7	5	-	1	-	1	7	2	5	-	7	359	51-28	
7	7	-	-	-	-	7	4	3	-	7	250	35-71	
4	3	-	1	-	-	9	7	2	-	9	538	65-11	
20	16	3	-	1	-	28	14	14	-	27	556	20-59	
4	4	-	-	-	-	20	9	11	-	19	692	31-16	
46	8	35	1	2	-	82	64	47	1	82	2,267	27-65	
3	3	-	-	-	-	6	1	5	-	6	145	24-17	

TABLE I.—*Births, Marriages, and Deaths,*

Counties and Towns.	Population. United States Census, 1860.	BIRTHS.								
		Persons.	SEX.			PARENTAGE.				
			M.	F.	Unk.	Am.	For.	Am. M. and For. Fe.	For. Fe. and Am. M.	Unk.
HAMPSH.— <i>Con.</i>										
Williamsburg, .	2,095	53	25	28	—	24	28	—	—	1
Worthington, .	1,041	14	7	7	—	14	—	—	—	—
MIDDLESEX, .	216,354	5,380	2785	2585	10	2091	2729	285	267	58
Acton, . . . .	1,726	32	16	16	—	24	7	—	—	1
Ashby, . . . .	1,091	13	7	6	—	11	2	—	—	—
Ashland, . . .	1,554	27	17	10	—	18	5	—	3	1
Bedford, . . .	843	19	11	8	—	12	6	1	—	—
Belmont, . . .	1,198	44	17	27	—	18	24	—	2	—
Billerica, . . .	1,776	31	18	13	—	13	12	1	5	—
Boxborough, . .	403	6	4	2	—	5	1	—	—	—
Brighton, . . .	3,375	85	39	46	—	27	48	7	1	2
Burlington, . .	606	10	6	4	—	7	2	1	—	—
Cambridge, . .	26,060	370	445	425	—	300	456	47	63	4
Carlisle, . . .	621	7	2	5	—	5	2	—	—	—
Charlestown, . .	25,065	582	300	281	1	234	270	42	36	—
Chelmsford, . .	2,291	42	23	19	—	20	19	—	2	1
Concord, . . .	2,246	36	17	19	—	19	14	8	—	—
Dracut, . . . .	1,881	56	24	32	—	21	29	1	4	1
Dunstable, . . .	487	6	2	4	—	6	—	—	—	—
Framingham, . .	4,227	82	48	34	—	37	42	1	2	—
Groton, . . . .	3,193	85	44	41	—	42	36	4	2	1
Holliston, . . .	3,339	78	39	39	—	32	41	4	1	—
Hopkinton, . .	4,340	145	79	66	—	29	106	5	4	1
Hudson,* . . . .	—	—	—	—	—	—	—	—	—	—
Lexington, . . .	2,329	48	23	25	—	16	26	2	4	—
Lincoln, . . . .	718	20	12	8	—	10	8	1	—	1
Littleton, . . .	1,063	32	17	14	1	23	9	—	—	—
Lowell, . . . .	36,827	669	353	316	—	192	408	26	41	2
Malden, . . . .	5,865	149	86	63	—	60	69	12	7	1
Marlborough, . .	5,911	273	140	133	—	83	172	8	15	—
Medford, . . . .	1,842	103	55	44	4	63	30	6	3	1
Melrose, . . . .	2,532	41	21	20	—	23	7	4	3	4
Natick, . . . .	5,515	168	82	86	—	71	81	8	5	3
Newton, . . . .	3,382	209	104	105	—	86	101	7	10	5
North Reading, .	1,203	18	9	9	—	16	1	—	1	—
Pepperell, . . .	1,895	39	20	19	—	23	13	—	1	2
Reading, . . . .	2,662	36	16	20	—	25	7	1	1	2
Sherborn, . . . .	1,129	12	7	5	—	7	4	—	—	1
Shirley, . . . .	1,468	24	13	11	—	14	8	1	1	—
Somerville, . . .	8,025	279	145	134	—	106	147	6	18	2
South Reading, .	3,207	66	35	31	—	45	19	1	—	1
Stonham, . . . .	3,206	64	33	31	—	26	28	6	2	2
Stow, . . . . .	1,641	29	18	11	—	15	13	1	—	—
Sudbury, . . . .	1,691	31	18	13	—	17	11	2	1	—
Tewksbury, . . .	1,744	24	15	9	—	14	9	1	—	—
( <i>St. Almshouse,</i> )	—	51	26	25	—	3	30	4	3	11

\* Incorporated March 19, 1868.

*registered during the year 1865—Continued.*

MARRIAGES.						DEATHS.							
Couples.	NATIVITY.					Persons.	Sex.			No. whose ages are registered.	Age.		
	Am.	For.	Am. M. and For. Fe.	For. M. and Am. Fe.	Unk.		M.	F.	Unk.		Agg'te.	Average.	
15	15	-	-	-	-	32	18	14	-	32	986	30.81	
6	6	-	-	-	-	17	7	10	-	17	587	34.53	
2,012	1169	609	88	137	9	4,223	2085	2131	7	4,197	124745	29.72	
9	7	1	-	1	-	33	11	22	-	33	1,502	45.52	
5	5	-	-	-	-	29	11	17	1	29	1,243	42.86	
12	12	-	-	-	-	42	26	16	-	42	1,023	24.36	
4	8	-	-	1	-	18	6	12	-	18	1,087	60.39	
4	4	-	-	-	-	20	5	15	-	20	587	29.35	
11	11	-	-	-	-	42	23	19	-	42	1,587	37.79	
1	1	-	-	-	-	5	2	3	-	5	125	25.00	
15	12	2	1	-	-	60	31	29	-	60	1,587	26.45	
3	3	-	-	-	-	13	4	9	-	13	808	61.77	
814	119	147	17	27	4	552	301	248	3	552	13,699	24.82	
9	8	-	1	-	-	13	4	9	-	13	793	61.00	
293	149	100	19	25	-	535	264	271	-	528	13,907	26.34	
17	14	1	2	-	-	32	20	12	-	32	933	29.16	
16	13	3	-	-	-	40	21	19	-	40	2,057	51.42	
2	1	1	-	-	-	33	13	20	-	32	1,216	38.00	
3	3	-	-	-	-	11	6	5	-	11	681	61.91	
50	34	9	3	4	-	79	42	37	-	79	3,066	38.81	
27	21	5	1	-	-	62	28	34	-	62	2,446	39.45	
30	27	2	1	-	-	29	15	14	-	28	813	29.21	
25	20	2	-	3	-	60	31	29	-	59	1,670	23.31	
-	-	-	-	-	-	-	-	-	-	-	-	-	
21	12	6	3	-	-	62	30	32	-	61	2,116	34.69	
3	3	-	-	-	-	14	6	8	-	14	514	36.71	
5	4	1	-	-	-	23	9	14	-	23	998	43.39	
409	185	176	13	33	2	577	273	304	-	577	15,280	26.48	
45	31	10	2	2	-	96	48	47	1	96	2,771	28.88	
82	52	23	1	6	-	108	48	60	-	108	2,592	24.00	
34	22	12	-	-	-	75	28	47	-	75	2,530	33.73	
28	22	2	1	3	-	35	17	18	-	34	945	27.79	
58	37	17	2	2	-	100	56	44	-	100	2,625	26.25	
57	30	20	2	5	-	125	52	73	-	121	3,745	30.95	
10	7	-	-	3	-	14	8	6	-	14	374	26.71	
20	18	2	-	-	-	42	14	28	-	41	1,853	45.20	
13	13	-	-	-	-	36	13	23	-	36	1,765	49.03	
4	3	-	1	-	-	11	5	6	-	11	530	48.18	
9	7	1	1	-	-	27	12	15	-	27	720	26.67	
45	39	3	3	-	-	191	104	87	-	186	4,814	25.88	
26	23	3	-	-	-	58	31	27	-	58	1,720	29.66	
16	15	-	1	-	-	90	44	46	-	89	2,153	21.94	
11	9	1	-	1	-	11	8	3	-	11	323	29.36	
11	11	-	-	-	-	28	12	16	-	28	1,230	43.93	
12	11	1	-	-	-	18	11	7	-	18	801	44.50	
-	-	-	-	-	-	195	108	87	-	195	5,801	29.75	

TABLE I.—*Births, Marriages, and Deaths,*

Counties and Towns.	Population. United States Census, 1860.	BIRTHS.								
		Persons.	SEX.			PARENTAGE.				
			M.	F.	Unk.	Am.	For.	Am.Fa. and For.M.	For.Fa. and Am.M.	Unk.
<b>MIDDLESEX—Con.</b>										
Townsend, . . .	2,005	38	21	17	—	25	11	2	—	—
Tyngsborough, . .	626	8	5	3	—	8	—	—	—	—
Waltham, . . .	6,397	171	81	89	—	49	110	7	3	2
Watertown, . . .	3,270	80	38	40	2	25	46	2	6	1
Wayland, . . .	1,188	30	17	13	—	16	14	—	—	—
W. Cambridge, . .	2,681	65	35	30	—	14	48	2	1	—
Westford, . . .	1,624	27	13	13	1	13	9	2	1	2
Weston, . . .	1,243	9	6	3	—	8	1	—	—	—
Wilmington, . . .	919	19	9	10	—	15	3	—	—	1
Winchester, . . .	1,937	55	31	24	—	22	30	2	—	1
Woburn, . . .	6,287	237	123	114	—	78	134	9	15	1
								•		
<b>NANTUCKET, .</b>	<b>6,094</b>	<b>48</b>	<b>31</b>	<b>17</b>	<b>—</b>	<b>40</b>	<b>2</b>	<b>1</b>	<b>4</b>	<b>2</b>
<b>NORFOLK, .</b>	<b>109,950</b>	<b>2,880</b>	<b>1474</b>	<b>1399</b>	<b>7</b>	<b>1165</b>	<b>1463</b>	<b>108</b>	<b>130</b>	<b>14</b>
Bellingham, . . .	1,313	22	8	14	—	14	5	3	—	—
Braintree, . . .	3,468	76	36	40	—	35	38	2	1	—
Brookline, . . .	5,164	135	75	58	2	33	98	1	2	1
Canton, . . .	3,242	94	44	49	1	20	61	9	4	—
Cohasset, . . .	1,958	25	11	14	—	18	6	—	1	—
Dedham, . . .	6,330	167	84	82	1	82	79	3	3	—
Dorchester, . . .	9,769	269	126	143	—	150	103	8	8	—
Dover, . . .	679	11	6	5	—	6	5	—	—	—
Foxborough, . . .	2,879	50	32	18	—	36	11	2	1	—
Franklin, . . .	2,172	36	15	21	—	27	7	1	1	—
Medfield, . . .	1,082	17	8	9	—	15	2	—	—	—
Medway, . . .	3,195	49	24	25	—	33	13	1	2	—
Milton, . . .	2,669	74	35	39	—	37	34	2	1	—
Needham, . . .	2,658	83	31	52	—	28	47	—	6	2
Quincy, . . .	6,778	156	85	71	—	71	70	6	6	3
Randolph, . . .	5,760	173	97	76	—	64	88	7	13	1
Roxbury, . . .	25,137	824	435	389	—	190	526	50	55	3
Sharon, . . .	1,377	21	13	8	—	16	5	—	—	—
Stoughton, . . .	4,830	134	67	67	—	65	58	4	7	—
Walpole, . . .	2,037	33	17	15	1	17	15	—	—	1
West Roxbury, . .	6,310	164	83	81	—	67	86	3	8	—
Weymouth, . . .	7,742	230	119	109	2	116	98	3	10	3
Wrentham, . . .	3,406	37	23	14	—	25	8	3	1	—
<b>PLYMOUTH, .</b>	<b>64,768</b>	<b>1,321</b>	<b>685</b>	<b>635</b>	<b>1</b>	<b>852</b>	<b>363</b>	<b>29</b>	<b>34</b>	<b>43</b>
Abington, . . .	8,527	216	113	103	—	106	92	12	6	—
Bridgewater, . . .	3,761	92	53	39	—	37	47	1	6	1
(St. Almshouse,) .	—	55	24	31	—	—	23	—	—	32

registered during the year 1865—Continued.

MARRIAGES.						DEATHS.							
Couples.	NATIVITY.					Persons.	SEX.			No. whose ages are registered.	AGE.		
	Am.	For.	Am. M. and For Fa.	For. M. and Am Fa.	Unk.		M.	F.	Unk.		Agg'te.	Average.	
14	13	1	-	-	-	50	20	30	-	50	2,082	41-64	
5	4	-	-	-	1	12	5	7	-	11	495	45-00	
58	33	14	1	10	-	147	70	75	2	147	3,477	28-65	
56	18	30	4	2	2	51	20	31	-	51	1,885	36-96	
2	2	-	-	-	-	20	14	6	-	20	710	35-50	
10	8	1	-	1	-	71	34	37	-	71	1,859	26-18	
14	10	-	2	2	-	32	18	14	-	31	1,250	40-32	
6	5	-	1	-	-	16	5	11	-	16	881	55-06	
7	6	-	-	1	-	25	14	11	-	25	1,016	40-64	
14	11	-	2	1	-	15	9	6	-	15	257	17-13	
57	38	12	3	4	-	140	75	65	-	139	3,803	27-36	
55	51	1	-	3	-	133	54	79	-	133	4,351	32-71	
916	532	262	43	72	7	2,222	1073	1144	5	2,201	64,488	29-30	
9	9	-	-	-	-	24	12	12	-	24	718	29-92	
18	16	1	1	-	-	33	38	45	-	33	2,323	27-99	
40	14	24	-	1	1	35	44	41	-	35	2,095	24-65	
24	5	10	2	7	-	54	25	29	-	54	1,815	33-61	
25	19	5	1	-	-	35	18	17	-	34	1,066	31-06	
47	33	6	2	6	-	153	78	75	-	153	4,547	29-72	
82	48	26	3	5	-	189	88	99	2	188	5,931	31-55	
7	6	1	-	-	-	9	6	3	-	9	371	41-22	
26	25	-	1	-	-	45	21	24	-	45	1,953	43-40	
17	17	-	-	-	-	53	22	30	1	53	1,693	31-94	
11	10	1	-	-	-	21	11	10	-	21	1,250	59-52	
31	26	1	1	3	-	52	20	32	-	52	1,838	35-35	
29	15	3	3	3	-	53	21	32	-	53	1,953	36-35	
21	12	5	-	4	-	60	28	32	-	60	1,765	29-42	
52	30	16	2	3	1	135	74	61	-	133	4,649	34-95	
44	27	10	1	5	1	113	59	54	-	111	3,284	29-59	
256	86	121	19	27	3	619	293	324	2	615	13,321	21-66	
13	11	2	-	-	-	23	11	12	-	23	937	40-73	
37	30	4	1	2	-	76	33	38	-	76	2,255	29-67	
12	12	-	-	-	-	34	16	18	-	31	1,533	51-06	
25	20	3	1	-	1	105	53	52	-	105	3,170	30-19	
66	42	17	1	6	-	140	69	71	-	135	3,341	24-75	
24	19	1	4	-	-	61	28	33	-	58	2,640	45-52	
601	542	36	13	9	1	1,390	717	672	1	1,378	45,894	33-30	
86	60	19	2	4	1	171	87	84	-	168	4,005	23-84	
24	22	2	-	-	-	65	37	28	-	65	2,287	35-28	
-	-	-	-	-	-	178	100	78	-	178	5,301	29-78	



TABLE I.—*Births, Marriages, and Deaths,*

Counties and Towns.	Population. United States Census, 1860.	BIRTHS.								
		Persons.	Sex.			PARENTAGE.				
			M.	F.	Unk.	Am.	For.	Am. Fa. and For. M.	For. Fa. and Am. M.	Unk.
PLYM'TH—Con.										
Carver, . . .	1,186	4	3	1	—	4	—	—	—	—
Duxbury, . . .	2,597	44	25	19	—	41	3	—	—	—
E. Bridgewater, . . .	3,207	62	30	32	—	41	19	—	1	1
Halifax, . . .	766	7	3	4	—	7	—	—	—	—
Hanover, . . .	1,565	28	12	16	—	23	5	—	—	—
Hanson, . . .	1,245	13	5	8	—	13	—	—	—	—
Hingham, . . .	4,351	71	39	32	—	50	17	4	—	—
Hull, . . .	285	4	1	3	—	4	—	—	—	—
Kingston, . . .	1,655	27	10	17	—	22	5	—	—	—
Lakeville, . . .	1,160	21	9	12	—	18	—	—	3	—
Marion, . . .	918	13	5	8	—	12	1	—	—	—
Marshfield, . . .	1,870	29	17	12	—	27	2	—	—	—
Mattapoisett, . . .	1,483	21	11	10	—	19	1	—	1	—
Middleborough, . . .	4,553	72	38	34	—	57	9	2	3	1
N. Bridgewater, . . .	6,584	162	75	87	—	86	69	1	4	2
Pembroke, . . .	1,524	26	16	10	—	21	4	—	—	1
Plymouth, . . .	6,272	149	85	63	—	114	20	5	9	1
Plympton, . . .	994	13	6	7	—	12	1	—	—	—
Rochester, . . .	1,232	16	8	8	—	15	1	—	—	—
Scituate, . . .	2,227	53	28	25	—	41	7	3	1	1
South Scituate, . . .	1,774	20	14	6	—	18	1	—	—	1
Wareham, . . .	3,186	70	36	34	—	45	22	1	—	2
W. Bridgewater, . . .	1,846	33	19	14	—	19	14	—	—	—
SUFFOLK, . .	192,700	5,735	2958	2773	4	1580	3399	346	351	59
Boston, . . .	177,840	5,275	2721	2554	—	1342	3230	324	320	59
Chelsea, . . .	18,395	428	220	204	4	222	156	20	30	—
North Chelsea, . . .	921	17	10	7	—	10	5	1	1	—
Winthrop, . . .	544	15	7	8	—	6	6	8	1	—
WORCESTER, . .	159,659	3,997	2029	1957	11	1653	2068	91	115	70
Ashburnham, . .	2,108	39	25	14	—	26	10	—	2	1
Athol, . . .	2,604	31	17	14	—	23	4	1	—	3
Auburn, . . .	914	16	10	6	—	11	3	1	1	—
Barre, . . .	2,973	60	33	27	—	38	15	5	2	—
Berlin, . . .	1,106	23	12	11	—	16	4	1	2	—
Blackstone, . . .	5,453	147	68	77	2	31	112	2	2	—
Bolton, . . .	1,348	32	17	15	—	18	12	—	1	1
Boylston, . . .	929	16	7	9	—	9	6	1	—	—
Brookfield, . . .	2,276	59	24	35	—	45	13	—	1	—
Charlton, . . .	2,047	22	14	8	—	21	—	—	—	1
Clinton, . . .	3,850	132	66	66	—	37	89	3	3	—
Dana, . . .	876	10	6	4	—	10	—	—	—	—
Douglas, . . .	2,442	64	30	34	—	19	36	—	8	1

*registered during the year 1865—Continued.*

MARRIAGES.						DEATHS.							
Couples.	NATIVITY.					Persons.	Sex.			No. whose ages are registered.	Age.		
	Am.	For.	Am. M. and For. Fe.	For. M. and Am. Fe.	Unk.		M.	F.	Unk.		Agg'te.	Average.	
10	10	-	-	-	-	13	8	5	-	13	497	38-23	
26	26	-	-	-	-	44	26	18	-	44	1,737	39-48	
36	34	-	1	1	-	45	22	23	-	45	1,436	31-91	
9	9	-	-	-	-	18	7	10	1	18	678	37-66	
15	12	2	1	-	-	40	19	21	-	39	1,560	40-00	
21	19	1	1	-	-	27	15	12	-	27	1,114	41-26	
29	25	2	1	1	-	98	50	48	-	97	3,098	31-94	
-	-	-	-	-	-	2	2	-	-	2	30	15-00	
13	13	-	-	-	-	28	17	11	-	28	1,063	37-96	
7	7	-	-	-	-	21	9	12	-	21	825	39-29	
9	9	-	-	-	-	20	11	9	-	19	877	46-16	
7	7	-	-	-	-	33	15	18	-	33	1,224	37-09	
15	15	-	-	-	-	40	19	21	-	40	1,828	45-70	
40	37	1	2	-	-	80	39	41	-	80	3,686	46-07	
69	64	2	3	-	-	124	70	54	-	121	3,121	25-79	
16	16	-	-	-	-	38	16	22	-	38	1,371	36-08	
84	73	6	2	3	-	142	76	66	-	140	4,557	32-55	
7	7	-	-	-	-	18	9	9	-	18	544	30-22	
8	8	-	-	-	-	7	3	4	-	6	302	50-33	
23	22	1	-	-	-	31	18	13	-	31	879	28-35	
15	15	-	-	-	-	21	8	13	-	21	899	42-61	
24	24	-	-	-	-	58	22	36	-	58	1,841	31-74	
8	8	-	-	-	-	28	12	16	-	28	1,134	40-50	
2,911	1117	1325	218	239	12	4,856	2481	2373	2	4,856	117705	24-24	
2,726	1021	1261	204	230	11	4,541	2335	2206	-	4,541	110444	24-32	
179	91	64	14	9	1	299	138	159	2	299	6,943	23-22	
8	3	-	-	-	-	12	7	5	-	12	262	23-50	
8	3	-	-	-	-	4	1	3	-	4	36	9-00	
1,561	1016	407	47	81	10	3,453	1734	1711	8	3417	97,399	28-50	
25	21	3	-	1	-	37	20	17	-	36	981	27-25	
27	22	2	-	2	1	49	29	20	-	49	1,653	33-73	
7	7	-	-	-	-	11	6	5	-	11	488	44-36	
29	23	3	3	-	-	54	27	27	-	54	1,643	30-44	
10	9	-	-	1	-	21	13	8	-	21	769	36-40	
45	18	27	-	-	-	100	45	55	-	100	2,180	21-80	
8	7	1	-	-	-	44	23	21	-	42	1,402	33-38	
8	3	-	-	-	-	12	4	8	-	12	539	44-92	
30	23	5	-	1	1	45	24	21	-	45	1,690	37-55	
19	18	-	-	1	-	38	13	25	-	38	1,582	41-63	
44	18	18	5	1	2	81	44	36	1	79	1,672	21-16	
5	5	-	-	-	-	8	3	5	-	8	159	19-88	
20	11	6	-	3	-	55	25	30	-	55	1,156	21-02	

TABLE I.—*Births, Marriages, and Deaths,*

Counties and Towns.	Population. United States Census, 1860.	BIRTHS.								
		Persons.	Sex.			PARENTAGE.				
			M.	F.	Unk.	Am.	For.	Am. Fa. and For. M.	For. Fa. and Am. M.	Unk.
<b>WORCES'R-<i>Con.</i></b>										
Dudley, . . .	1,736	53	24	29	-	13	38	1	1	-
Fitchburg, . . .	7,805	137	68	69	-	56	72	8	5	1
Gardner, . . .	2,646	44	26	18	-	27	16	-	1	-
Grafton, . . .	4,317	89	49	40	-	28	56	1	2	2
Hardwick, . . .	1,521	52	30	22	-	26	23	2	-	1
Harvard, . . .	1,507	10	6	4	-	8	2	-	-	-
Holden, . . .	1,945	22	7	15	-	8	12	2	-	-
Hubbardston, . . .	1,621	24	14	10	-	18	4	1	-	1
Lancaster, . . .	1,932	30	14	16	-	15	14	-	1	-
Leicester, . . .	2,748	72	42	30	-	28	39	1	2	2
Leominster, . . .	3,522	73	40	31	2	44	23	4	-	2
Lunenburg, . . .	1,212	20	10	10	-	19	-	-	-	1
Mendon, . . .	1,351	23	14	9	-	17	4	-	2	-
Milford, . . .	9,132	325	163	162	-	99	207	7	6	6
Millbury, . . .	3,296	114	61	53	-	85	70	5	3	1
New Braintree, . . .	805	13	2	9	2	6	6	-	-	1
Northborough, . . .	1,565	32	17	15	-	16	18	1	1	1
Northbridge, . . .	2,633	60	23	37	-	24	32	2	2	-
No. Brookfield, . . .	2,760	56	33	23	-	19	34	1	2	-
Oakham, . . .	959	6	4	2	-	5	1	-	-	-
Oxford, . . .	3,034	63	27	36	-	29	27	-	6	1
Paxton, . . .	725	7	2	5	-	5	2	-	-	-
Petersham, . . .	1,465	17	7	10	-	14	2	-	-	1
Phillipston, . . .	764	16	8	7	1	11	4	-	-	1
Princeton, . . .	1,201	23	12	11	-	19	3	-	-	1
Royalston, . . .	1,486	25	17	8	-	21	2	1	1	-
Rutland, . . .	1,076	25	7	18	-	15	9	1	-	-
Shrewsbury, . . .	1,558	37	18	19	-	18	13	1	3	2
Southborough, . . .	1,854	47	25	22	-	33	14	-	-	-
Southbridge, . . .	3,575	50	31	19	-	24	22	3	1	-
Spencer, . . .	2,777	139	72	67	-	28	106	1	1	3
Sterling, . . .	1,881	37	19	17	1	22	9	-	2	4
Sturbridge, . . .	2,291	31	20	11	-	19	10	1	1	-
Sutton, . . .	2,676	45	28	17	-	22	19	1	3	-
Templeton, . . .	2,816	59	33	26	-	34	21	3	-	1
Upton, . . .	1,986	50	18	32	-	28	21	-	-	1
Uxbridge, . . .	3,133	57	23	33	1	29	26	-	1	1
Warren, . . .	2,107	62	32	30	-	30	30	1	1	-
Webster, . . .	2,912	74	40	34	-	12	59	-	3	-
Westborough, . . .	2,913	77	41	36	-	33	36	3	3	2
West Boylston, . . .	2,509	67	33	34	-	26	30	3	7	1
West Brookfield, . . .	1,548	48	25	23	-	26	20	2	-	-
Westminster, . . .	1,840	22	12	10	-	18	3	1	-	-
Winchendon, . . .	2,624	61	31	28	2	26	13	1	1	20
Worcester, . . .	24,960	952	472	480	-	296	597	23	31	5

*registered during the year 1865—Concluded.*

MARRIAGES.						DEATHS.							
Couples.	NATIVITY.					Persons.	Sex.			No. whose ages registered.	Age.		
	Am.	For.	Am. M. and For. Fe.	For. M. and Am. Fe.	Unk.		M.	F.	U.		Agg'te.	Average.	
10	8	-	-	1	1	64	30	33	1	63	1,300	20-63	
84	59	17	1	6	1	192	103	89	-	192	4,909	25-52	
18	14	3	-	1	-	82	11	21	-	32	1,361	42-53	
86	24	11	-	1	-	56	24	32	-	56	1,911	34-12	
22	11	10	1	-	-	24	8	16	-	24	872	36-33	
3	2	-	1	-	-	19	10	9	-	19	790	41-58	
16	14	1	-	1	-	33	23	10	-	32	1,491	46-59	
15	15	-	-	-	-	28	11	15	2	28	1,254	44-79	
18	12	2	3	1	-	30	11	19	-	30	1,313	43-77	
18	12	4	-	2	-	74	42	32	-	74	2,114	28-57	
23	20	1	1	1	-	63	23	40	-	63	2,422	38-44	
6	6	-	-	-	-	38	18	20	-	38	1,601	42-13	
12	11	-	-	-	1	16	4	12	-	14	432	30-86	
111	44	63	1	3	-	220	118	102	-	220	4,262	19-37	
41	19	8	4	10	-	82	37	45	-	82	2,103	25-65	
3	3	-	-	-	-	12	6	5	1	10	455	45-50	
14	12	1	1	-	-	26	12	14	-	26	803	30-88	
23	13	7	2	1	-	38	13	25	-	38	805	21-18	
12	8	3	-	1	-	85	36	48	1	85	2,557	39-08	
5	5	-	-	-	-	13	8	5	-	13	660	50-77	
18	13	1	1	2	1	53	23	29	1	53	1,822	34-38	
3	2	-	-	1	-	16	8	8	-	16	598	37-37	
19	19	-	-	-	-	22	13	9	-	22	961	43-63	
9	8	-	-	1	-	21	9	12	-	21	1,128	53-71	
8	8	-	-	-	-	31	12	19	-	31	1,145	36-94	
10	10	-	-	-	-	22	6	16	-	22	662	30-09	
13	13	-	-	-	-	21	9	12	-	21	999	47-57	
15	10	-	2	3	-	36	19	17	-	36	1,720	47-78	
13	12	-	1	-	-	46	22	24	-	46	1,161	25-24	
36	10	21	2	3	-	98	41	57	-	97	1,785	18-40	
23	14	8	-	1	-	60	33	27	-	60	1,513	25-22	
9	7	2	-	-	-	31	13	18	-	31	1,407	45-39	
14	10	4	-	-	-	25	13	12	-	25	842	33-63	
19	13	1	3	2	-	46	23	18	-	46	1,976	42-96	
27	24	2	-	1	-	42	24	18	-	42	1,578	37-57	
17	17	-	-	-	-	41	20	21	-	41	1,352	45-17	
23	15	8	-	-	-	50	20	30	-	50	1,419	28-38	
25	22	1	-	2	-	39	22	17	-	39	1,056	27-08	
54	19	30	1	4	-	78	44	34	-	78	2,195	28-14	
23	18	7	1	2	-	64	36	28	-	63	1,514	24-03	
28	13	11	1	3	-	46	24	22	-	46	1,434	31-17	
14	10	2	-	2	-	37	19	18	-	37	1,094	29-57	
14	14	-	-	-	-	35	23	12	-	35	1,067	30-49	
35	23	4	3	3	2	43	24	13	1	42	1,466	34-90	
325	195	109	9	12	-	750	405	345	-	750	15,676	20-90	

TABLE II.—BIRTHS.

*Distinguishing by Counties, by Months, and by Sex. the registered Number of Children BORN ALIVE during the year*

1865.

Year and Month.	SEX.	Staff.	Barnstable.	Berkshire.	Bristol.	Dukes and Nantucket.	Essex.	Franklin.	Hampden.	Hampshire.	Middlesex.	Norfolk.	Plymouth.	Suffolk.	Worcester.
THE YEAR.	Totals	80249	771	1341	1978	135	3740	582	1561	828	5380	2880	1321	5735	3997
	Males	15623	415	664	1030	77	1982	311	800	413	2785	1474	685	2958	2029
	Fem.,	14554	346	674	943	57	1749	270	755	411	2585	1399	635	2773	1957
	Unk.,	72	10	3	5	1	9	1	6	4	10	7	1	4	11
Jan.	Totals	2,350	48	86	165	6	202	41	185	71	406	211	88	466	335
	Males	1,225	21	47	88	3	164	25	61	38	203	109	49	232	185
	Fem.,	1,120	27	39	75	3	127	15	74	32	203	102	39	234	150
	Unk.,	5	-	-	2	-	1	1	-	1	-	-	-	-	-
Feb.	Totals	2,211	51	87	153	12	282	37	97	62	382	206	114	454	274
	Males	1,153	30	49	85	4	155	17	42	31	185	98	66	247	144
	Fem.,	1,051	20	38	68	8	126	20	55	29	195	108	48	207	129
	Unk.,	7	1	-	-	-	1	-	-	2	2	-	-	-	1
March.	Totals	2,554	45	106	193	7	296	39	142	56	429	232	116	569	324
	Males	1,345	24	47	105	5	160	26	73	26	231	126	53	299	170
	Fem.,	1,205	21	59	88	2	136	13	69	30	198	104	63	269	153
	Unk.,	4	-	-	-	-	-	-	-	-	-	2	-	1	1
April.	Totals	2,844	55	119	145	12	280	52	110	71	382	203	108	474	333
	Males	1,168	32	59	75	6	145	28	58	35	171	93	53	248	165
	Fem.,	1,175	23	60	70	6	135	24	52	36	211	110	55	226	167
	Unk.,	1	-	-	-	-	-	-	-	-	-	-	-	-	1
May.	Totals	2,278	48	115	145	12	276	49	107	52	423	223	72	439	317
	Males	1,162	27	51	79	8	147	18	47	20	220	111	44	234	156
	Fem.,	1,112	21	63	66	4	129	31	58	32	203	111	28	205	161
	Unk.,	4	-	1	-	-	-	-	2	-	-	1	-	-	-
June.	Totals	2,378	52	115	168	15	290	48	104	54	423	227	109	431	342
	Males	1,225	27	56	82	11	145	30	59	27	207	122	55	224	180
	Fem.,	1,150	25	59	85	4	144	18	45	27	215	105	54	207	162
	Unk.,	3	-	-	1	-	1	-	-	-	1	-	-	-	-

TABLE II.—Concluded.

Months.	SEX.	Grays.	Barnstable.	Berkshire.	Bristol.	Dukes and Nantucket.	Essex.	Franklin.	Hampden.	Hampshire.	Middlesex.	Norfolk.	Plymouth.	Suffolk.	Worcester.
July.	Totals	2,516	65	119	149	9	277	53	187	72	466	234	122	471	342
	Males	1,330	40	57	78	5	151	25	70	34	261	125	54	255	175
	Fem.,	1,183	25	62	71	4	124	28	67	88	205	108	68	216	167
	Unk.,	8	-	-	-	-	2	-	-	-	-	1	-	-	-
Aug.	Totals	2,826	80	121	186	18	386	55	158	83	523	246	118	489	363
	Males	1,422	44	56	92	12	193	29	82	35	269	133	66	228	183
	Fem.,	1,394	34	65	92	6	193	26	75	47	253	113	52	260	178
	Unk.,	10	2	-	2	-	-	-	1	1	1	-	-	1	2
Sept.	Totals	2,726	92	136	170	9	395	72	136	75	471	261	117	438	354
	Males	1,414	50	70	82	3	213	39	72	37	254	131	56	223	184
	Fem.,	1,305	40	66	88	6	182	33	62	38	217	130	61	214	168
	Unk.,	7	2	-	-	-	-	-	2	-	-	-	-	1	2
Oct.	Totals	2,691	79	107	184	8	326	38	151	85	494	288	109	454	368
	Males	1,393	38	55	97	6	160	25	86	50	256	148	61	230	181
	Fem.,	1,292	39	52	87	2	164	13	65	35	238	139	47	224	187
	Unk.,	6	2	-	-	-	2	-	-	-	-	1	1	-	-
Nov.	Totals	2,626	86	126	146	15	318	43	148	64	500	246	109	522	303
	Males	1,386	45	61	75	7	176	22	76	33	267	130	60	281	153
	Fem.,	1,236	40	64	71	7	141	21	72	31	233	116	49	241	150
	Unk.,	4	1	1	-	1	1	-	-	-	-	-	-	-	-
Dec.	Totals	2,704	64	101	170	12	321	54	134	80	473	302	139	528	326
	Males	1,385	36	55	90	7	173	26	73	45	258	147	68	257	150
	Fem.,	1,309	28	45	80	5	147	28	61	35	211	153	71	270	175
	Unk.,	10	-	1	-	-	1	-	-	-	4	2	-	1	1
Not stated.	Totals	45	6	3	4	-	1	1	2	3	8	1	-	-	16
	Males	15	1	1	2	-	-	1	1	2	3	1	-	-	3
	Fem.,	22	3	2	2	-	1	-	1	1	3	-	-	-	10
	Unk.,	8	2	-	-	-	-	-	1	-	2	-	-	-	3

## SUPPLEMENT A.

## PLURALITY BIRTHS—1865.

[Included in Tables I. and II.]

Year and Months.	SEX.	STAFF.	Barnstable	Berkshire.	Bristol.	Dukes and Nantucket.	Essex.	Franklin.	Hampden.	Hampshire.	Middlesex.	Norfolk.	Plymouth.	Suffolk.	Worcester.
THE YEAR.	Totals, .	591	24	34	36	8	80	2	35*	16	92	55*	24	96*	89*
	Males, .	292	13	21	18	4	43	2	10	6	46	31	10	52	36
	Fem., .	299	11	13	18	4	37	-	25	10	46	24	14	44	53
Jan.	Totals, .	40	2	2	2	-	6	-	2	-	4	2	4	8	8
	Males, .	23	-	2	2	-	5	-	-	-	1	2	1	5	5
	Fem., .	17	2	-	-	-	1	-	2	-	3	-	3	3	3
Feb.	Totals, .	38	-	2	6	2	2	-	2	-	4	2	2	4	12
	Males, .	24	-	2	3	-	-	-	2	-	3	2	1	4	7
	Fem., .	14	-	-	3	2	2	-	-	-	1	-	1	-	5
Mar.	Totals, .	44	-	-	2	-	4	-	4	4	8	12	2	6	2
	Males, .	23	-	-	1	-	2	-	-	3	5	8	2	2	-
	Fem., .	21	-	-	1	-	2	-	4	1	3	4	-	4	2
April.	Totals, .	58	-	4	2	4	8	-	2	-	8	4	4	10	12
	Males, .	30	-	2	-	3	6	-	1	-	5	3	2	5	3
	Fem., .	28	-	2	2	1	2	-	1	-	3	1	2	5	9
May.	Totals, .	38	-	2	4	-	10	-	2	-	8	-	-	4	8
	Males, .	23	-	1	2	-	6	-	1	-	6	-	-	2	5
	Fem., .	15	-	1	2	-	4	-	1	-	2	-	-	2	3
June.	Totals, .	47	4	2	8	-	4	2	4	-	6	4	-	5	8
	Males, .	19	2	-	3	-	2	2	1	-	3	1	-	-	5
	Fem., .	28	2	2	5	-	2	-	3	-	3	3	-	5	3
July.	Totals, .	58	2	-	2	-	10	-	2	6	16	4	2	4	10
	Males, .	22	2	-	1	-	4	-	-	1	6	3	2	1	2
	Fem., .	36	-	-	1	-	6	-	2	5	10	1	-	3	8
Aug.	Totals, .	59	4	8	-	2	12	-	2	2	6	2	-	10	11
	Males, .	29	2	7	-	1	2	-	1	-	5	1	-	6	4
	Fem., .	30	2	1	-	1	10	-	1	2	1	1	-	4	7

\* Five cases of Triplets occurred in 1865,—one, severally, in Hampden, Norfolk, Suffolk, and Worcester Counties,—each comprising three females;—also a fifth, comprising three males, in Suffolk County. Except the case in Norfolk County all were of Foreign parentage.

1865.]

## PLURALITY BIRTHS.

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## SUPPLEMENT A.—Concluded.

Months.	SEX.	STATE.	Barnstable.	Berkshire.	Bristol.	Dukes and Nantucket.	Essex.	Franklin.	Hampden.	Hampshire.	Middlesex.	Norfolk.	Plymouth.	Suffolk.	Worcester.
Sept.	Totals, .	46	8	6	2	-	6	-	2	-	6	4	-	8	4
	Males, .	28	6	5	-	-	4	-	-	-	2	2	-	3	1
	Fem., .	28	2	1	2	-	2	-	2	-	4	2	-	5	3
Oct.	Totals, .	57	2	2	6	-	6	-	6	-	8	9	2	8	8
	Males, .	29	1	2	5	-	3	-	4	-	2	5	1	3	3
	Fem., .	28	1	-	1	-	3	-	2	-	6	4	1	5	5
Nov.	Totals, .	36	2	2	-	-	6	-	4	-	10	4	2	4	2
	Males, .	18	-	-	-	-	4	-	-	-	5	-	-	4	-
	Fem., .	28	2	2	-	-	2	-	4	-	5	4	2	-	2
Dec.	Totals, .	70	-	4	2	-	6	-	3	4	8	8	6	25	4
	Males, .	34	-	-	1	-	5	-	-	2	3	4	1	17	1
	Fem., .	36	-	4	1	-	1	-	3	2	5	4	5	8	3



## SUPPLEMENT B.

## ILLEGITIMATE BIRTHS—1865.

[Included in Tables I. and II.]

Year and Months.	SEX.	STATE.	Barnstable.	Berkshire.	Bristol.	Dukes and Nantucket.	Essex.	Franklin.	Hampden.	Hampshire.	Middlesex.	Norfolk.	Plymouth.	Suffolk.	Worcester.
THE YEAR.	Totals, .	271	10	20	27	5	25	6	24*	9	50†	10	40‡	22	23
	Males, .	131	5	6	16	4	9	1	14	4	25	3	19	10	15
	Fem., .	136	5	12	11	1	16	4	10	4	25	7	21	12	8
	Unk., .	4	-	2	-	-	-	1	-	1	-	-	-	-	-
Jan.	Totals, .	21	1	3	1	-	8	1	1	1	4	-	2	2	2
	Males, .	13	1	1	-	-	2	-	1	1	2	-	2	2	1
	Fem., .	7	-	2	1	-	1	-	-	-	2	-	-	-	1
	Unk., .	1	-	-	-	-	-	1	-	-	-	-	-	-	-
Feb.	Totals, .	21	3	1	1	1	1	-	1	2	3	1	5	2	-
	Males, .	10	2	1	-	1	-	-	1	1	2	-	1	2	-
	Fem., .	10	1	-	1	-	1	-	1	-	1	1	4	-	-
	Unk., .	1	-	-	-	-	-	-	-	1	-	-	-	-	-
March.	Totals, .	30	1	3	4	-	-	-	4	1	9	1	5	1	1
	Males, .	15	-	1	4	-	-	-	2	1	2	-	3	1	1
	Fem., .	15	1	2	-	-	-	-	2	-	7	1	2	-	-
	Unk., .	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April.	Totals, .	24	1	-	1	-	2	1	2	1	6	1	3	3	3
	Males, .	13	-	-	1	-	1	1	2	-	1	1	3	2	1
	Fem., .	11	1	-	-	-	1	-	-	1	5	-	-	1	2
	Unk., .	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May.	Totals, .	18	1	-	4	-	-	2	1	2	2	1	3	1	1
	Males, .	9	1	-	-	-	-	-	-	1	2	-	3	1	1
	Fem., .	9	-	-	4	-	-	2	1	1	-	1	-	-	-
	Unk., .	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June.	Totals, .	23	1	-	5	-	-	-	3	-	5	3	6	-	-
	Males, .	10	-	-	3	-	-	-	3	-	2	1	1	-	-
	Fem., .	13	1	-	2	-	-	-	-	-	3	2	5	-	-
	Unk., .	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July.	Totals, .	17	1	-	1	1	3	-	1	2	2	-	4	2	-
	Males, .	8	1	-	-	1	2	-	1	-	2	-	1	-	-
	Fem., .	9	-	-	1	-	1	-	-	2	-	-	3	2	-
	Unk., .	-	-	-	-	-	-	-	-	-	-	-	-	-	-

\* 14 at State Almshouse, Monson.

† 34 at State Almshouse, Tewksbury.

‡ 30 at State Almshouse, Bridgewater.

## SUPPLEMENT B.—Concluded.

Months.	SEX.	State.	Barnstable.	Berkshire.	Bristol.	Dukes and Martha's Vineyard.	Essex.	Franklin.	Hampden.	Hampshire.	Middlesex.	Norfolk.	Plymouth.	Suffolk.	Worcester.
Aug.	Totals, .	29	-	1	-	1	3	1	5	-	7	1	5	1	4
	Males, .	13	-	-	-	1	-	-	2	-	4	-	2	-	4
	Fem., .	16	-	1	-	-	3	1	3	-	3	1	3	1	-
Sept.	Totals, .	19	-	3	1	-	4	1	2	-	3	-	1	3	1
	Males, .	7	-	1	1	-	-	-	2	-	2	-	-	-	1
	Fem., .	12	-	2	-	-	4	1	-	-	1	-	1	3	-
Oct.	Totals, .	23	-	3	4	-	2	-	1	-	3	2	3	4	1
	Males, .	10	-	-	3	-	1	-	1	-	2	1	2	-	-
	Fem., .	13	-	3	1	-	1	-	-	-	1	1	1	4	1
Nov.	Totals, .	19	-	2	3	1	4	-	1	-	3	-	-	2	3
	Males, .	11	-	-	2	1	2	-	-	-	2	-	-	2	2
	Fem., .	7	-	1	1	-	2	-	1	-	1	-	-	-	1
	Unk., .	1	-	1	-	-	-	-	-	-	-	-	-	-	-
Dec.	Totals, .	27	1	4	2	1	3	-	2	-	3	-	3	1	7
	Males, .	12	-	2	2	-	1	-	-	-	2	-	1	-	4
	Fem., .	14	1	1	-	1	2	-	2	-	1	-	2	1	3
	Unk., .	1	-	1	-	-	-	-	-	-	-	-	-	-	-

TABLE III.—STILLBORN.

*Distinguishing by Counties, by Months, and by Sex. the registered Number of Still-births during the year*

1865.

Year and Month.	SEX.	STATE.	Barnstable.	Berkshire.	Bristol.	Dukes and Nantucket.	Essex.	Franklin.	Hampden.	Hampshire.	Middlesex.	Norfolk.	Plymouth.	Suffolk.	Worcester.
THE YEAR.	Totals, .	859	25	13	49	2	68	8	11	7	143	71	16	389	57
	Males, .	467	6	4	25	1	38	4	7	4	75	33	8	223	39
	Fem., .	317	8	4	16	1	21	2	2	3	52	30	7	157	14
	Unk., .	75	11	5	8	-	9	2	2	-	16	8	1	9	4
Jan.	Totals, .	65	3	-	5	1	7	-	-	-	8	4	1	32	4
	Males, .	33	1	-	-	-	4	-	-	-	5	1	-	19	3
	Fem., .	28	1	-	4	1	2	-	-	-	3	2	1	13	1
	Unk., .	4	1	-	1	-	1	-	-	-	-	1	-	-	-
Feb.	Totals, .	73	1	-	7	-	5	-	1	-	9	9	1	32	8
	Males, .	37	1	-	5	-	2	-	1	-	3	5	-	15	5
	Fem., .	32	-	-	1	-	2	-	-	-	6	4	1	15	3
	Unk., .	4	-	-	1	-	1	-	-	-	-	-	-	2	-
March.	Totals, .	78	-	1	7	-	5	1	-	-	10	10	2	36	6
	Males, .	44	-	1	3	-	3	1	-	-	5	5	1	21	4
	Fem., .	29	-	-	3	-	2	-	-	-	5	4	1	13	1
	Unk., .	5	-	-	1	-	-	-	-	-	-	1	-	2	1
April.	Totals, .	62	1	-	2	-	5	-	-	-	11	4	1	35	3
	Males, .	33	-	-	1	-	2	-	-	-	6	3	1	22	3
	Fem., .	20	1	-	-	-	1	-	-	-	4	1	-	13	-
	Unk., .	4	-	-	1	-	2	-	-	-	1	-	-	-	-
May.	Totals, .	73	5	1	3	-	7	1	1	1	11	3	1	37	2
	Males, .	38	1	-	-	-	6	-	1	1	5	1	1	20	2
	Fem., .	29	2	1	2	-	1	-	-	-	5	2	-	16	-
	Unk., .	6	2	-	1	-	-	1	-	-	1	-	-	1	-
June.	Totals, .	80	1	1	3	1	5	1	-	3	19	8	1	33	4
	Males, .	41	1	-	1	1	1	-	-	1	10	3	1	19	3
	Fem., .	31	-	1	1	-	3	1	-	2	6	4	-	12	1
	Unk., .	8	-	-	1	-	1	-	-	-	3	1	-	2	-



## TABLE IV.—MARRIAGES.

*Distinguishing by Counties and by Months, the Number of Marriages registered during the year*

**1865.**

Year and Months.	STATE.	Barnstable.	Berkshire.	Bristol.	Dukes.	Essex.	Franklin.	Hampden.	Hampshire.	Middlesex.	Nantucket.	Norfolk.	Plymouth.	Suffolk.	Worcester.
THE YEAR, .	13,051	379	552	895	43	1772	286	703	365	2012	55	916	601	2911	1561
January, . .	1,184	47	51	79	1	177	30	66	39	164	3	71	52	257	147
February, .	981	20	44	56	2	117	22	64	22	164	1	64	34	264	107
March, . .	656	22	20	46	3	105	28	33	22	85	7	42	38	124	81
April, . . .	932	22	35	51	1	133	28	49	30	152	—	66	42	207	116
May, . . .	1,004	30	42	66	1	110	26	60	30	158	3	65	34	242	137
June, . . .	1,029	25	23	69	4	139	18	47	34	181	4	78	47	228	132
July, . . .	993	24	36	77	7	124	21	53	12	153	6	61	37	258	124
August, . .	938	21	35	72	7	111	14	48	35	182	6	76	39	244	98
September, .	1,173	22	59	89	1	173	17	67	25	197	4	81	59	261	118
October, . .	1,244	35	66	71	8	149	21	69	34	203	11	102	55	284	136
November, .	1,510	64	54	111	4	205	28	82	34	235	5	106	79	324	179
December, .	1,373	47	56	108	4	229	33	65	48	185	5	104	85	218	186
Unknown, .	34	—	31	—	—	—	—	—	—	8	—	—	—	—	—



TABLE V.—Continued.

**(B.) First Marriage of Male and subsequent Marriage of Female.**

[illegible]

(C.) Subsequent Marriage of the Male, but First Marriage of the Female.

[illegible]





TABLE VI.—DEATHS.

*Distinguishing by Counties, by Months, and by Sex, the registered Number of Persons who Died during the year*

1865.

Year and Months.	SEX.	STATE.	Barnstable.	Berkshire.	Bristol.	Dukes and Nantucket.	Essex.	Franklin.	Hampden.	Hampshire.	Middlesex.	Norfolk.	Plymouth.	Suffolk.	Worcester.
THE YEAR.	Pers.,	26152	617	1019	1829	198	3716	577	1230	822	4223	2222	1390	4856	3453
	Males	13085	323	520	955	91	1834	258	631	383	2085	1073	717	2481	1734
	Fem.,	13024	293	497	873	107	1881	318	591	433	2131	1144	672	2373	1711
	Unk.,	43	1	2	1	-	1	1	8	6	7	5	1	2	8
Jan.	Pers.,	2,008	35	66	155	16	288	46	90	66	337	165	100	334	260
	Males	1,025	19	35	86	9	135	21	51	30	174	89	59	187	130
	Fem.,	980	16	31	69	7	153	25	39	36	162	74	41	197	130
	Unk.,	3	-	-	-	-	-	-	-	-	1	2	-	-	-
Feb.	Pers.,	2,010	62	84	145	15	262	26	96	50	384	158	109	375	244
	Males	976	32	43	60	6	139	13	58	20	178	76	48	182	121
	Fem.,	1,032	30	41	84	9	123	13	38	30	206	82	60	193	123
	Unk.,	2	-	-	1	-	-	-	-	-	-	-	1	-	-
March.	Pers.,	2,229	48	66	163	22	322	46	117	76	354	170	131	455	259
	Males	1,145	22	32	88	9	152	33	58	32	174	97	69	248	131
	Fem.,	1,080	26	34	75	13	170	13	57	44	179	72	62	207	128
	Unk.,	4	-	-	-	-	-	-	2	-	1	1	-	-	-
April.	Pers.,	2,014	45	68	119	19	266	36	117	63	328	167	109	425	252
	Males	1,039	24	34	69	10	130	21	65	24	159	81	53	231	133
	Fem.,	973	21	34	50	9	136	15	50	39	169	86	56	194	114
	Unk.,	2	-	-	-	-	-	-	2	-	-	-	-	-	-
May.	Pers.,	1,855	38	76	140	22	265	43	85	47	265	160	103	375	236
	Males	934	22	32	72	8	139	16	42	15	130	74	52	191	139
	Fem.,	921	16	44	68	14	126	25	43	32	135	86	51	184	97
	Unk.,	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June.	Pers.,	1,695	37	53	94	16	237	26	83	38	291	150	86	356	228
	Males	874	17	27	50	9	134	9	45	19	158	71	44	174	117
	Fem.,	818	19	26	44	7	103	17	37	19	138	78	42	182	111
	Unk.,	3	1	-	-	-	-	-	1	-	-	1	-	-	-

TABLE VI.—Concluded.

Month.	SEX.	State.	Barnstable.	Berkshire.	Bristol.	Dukes and Nantucket.	Essex.	Franklin.	Hampden.	Hampshire.	Middlesex.	Norfolk.	Plymouth.	Suffolk.	Worcester.
July.	Pers.,	2,194	45	74	137	15	295	33	90	61	343	189	114	508	290
	Males	1,109	22	44	63	9	149	11	39	32	175	80	67	266	152
	Fem.,	1,080	23	30	74	6	146	22	51	28	167	109	47	242	135
	Unk.,	5	-	-	-	-	-	-	-	1	1	-	-	-	3
Aug.	Pers.,	2,841	70	122	192	9	404	65	115	88	486	257	145	455	433
	Males	1,419	40	63	104	1	184	21	63	42	245	135	71	234	216
	Fem.,	1,418	30	59	88	8	219	44	51	46	241	122	74	220	216
	Unk.,	4	-	-	-	-	1	-	1	-	-	-	-	1	1
Sept.	Pers.,	2,878	75	118	228	26	431	73	136	127	418	247	144	451	404
	Males	1,414	42	59	123	13	225	36	57	64	204	103	72	219	197
	Fem.,	1,455	33	58	105	13	206	37	77	59	214	144	72	231	206
	Unk.,	9	-	1	-	-	-	-	2	4	-	-	-	1	1
Oct.	Pers.,	2,619	58	115	182	14	386	75	118	91	419	243	131	413	374
	Males	1,279	27	62	95	8	194	30	67	42	196	112	67	204	175
	Fem.,	1,336	31	53	87	6	192	45	51	49	222	130	64	209	197
	Unk.,	4	-	-	-	-	-	-	-	-	1	1	-	-	2
Nov.	Pers.,	1,979	48	97	159	11	292	46	99	64	280	165	110	353	255
	Males	991	28	45	86	3	127	20	52	35	145	72	57	202	119
	Fem.,	986	20	51	73	8	165	25	47	29	135	93	53	151	136
	Unk.,	2	-	1	-	-	-	1	-	-	-	-	-	-	-
Dec.	Pers.,	1,806	55	77	112	13	267	61	83	49	314	145	107	306	217
	Males	868	27	42	58	6	125	25	33	27	146	81	57	143	98
	Fem.,	937	28	35	54	7	142	36	50	22	168	64	50	163	118
	Unk.,	1	-	-	-	-	-	-	-	-	-	-	-	-	1
Unk.	Pers.,	24	1	3	3	-	1	1	1	2	4	6	1	-	1
	Males	12	1	2	1	-	1	-	1	1	1	2	1	-	1
	Fem.,	8	-	1	2	-	-	1	-	-	-	4	-	-	-
	Unk.,	4	-	-	-	-	-	-	-	1	3	-	-	-	-

TABLE VII.—DEATHS BY AGE AND SEX,

*Distinguishing by Age and by Sex, the Number of Deaths registered in each County distinguishing Sex, according to the United States Census of 1860,—and also*

State and Counties.	Population— U. S. Census, June 1, 1860.		Percentage of Deaths to Pop.	No. of Deaths Registered 1864.	Under 1.	1 to 2.	2 to 3.	3 to 4.	4 to 5.	5 to 10.	10 to 15.
MASSACHUSETTS	1,231,068	Per.	2.12	26,152	4,969	2,008	1,083	709	522	1,333	661
	596,718	Ma.	2.19	13,085	2,593	1,035	542	351	260	725	319
	634,350	Fe.	2.05	13,064	2,241	970	540	358	262	608	342
	-	U.	-	43	36	8	1	-	-	-	-
BARNSTABLE Co.,	35,990	Per.	1.72	617	84	40	20	6	11	26	15
	17,800	Ma.	1.81	323	44	19	12	-	9	17	5
	18,190	Fe.	1.61	293	89	21	8	6	2	9	10
	-	U.	-	1	1	-	-	-	-	-	-
BERKSHIRE COUNTY,	55,120	Per.	1.85	1,019	117	75	48	84	20	52	26
	27,185	Ma.	1.91	530	69	45	21	20	8	23	15
	27,935	Fe.	1.74	487	47	29	27	14	12	20	21
	-	U.	-	2	1	1	-	-	-	-	-
BRISTOL COUNTY,	93,794	Per.	1.95	1,829	297	136	79	62	36	111	45
	45,373	Ma.	2.11	965	168	71	47	29	14	61	16
	48,421	Fe.	1.80	873	128	65	32	33	22	50	29
	-	U.	-	1	1	-	-	-	-	-	-
DYKES COUNTY,	4,408	Per.	1.48	65	7	1	2	-	-	-	-
	2,352	Ma.	1.57	37	5	-	-	-	-	-	-
	2,041	Fe.	1.37	28	2	1	2	-	-	-	-
ESSEX COUNTY,	166,611	Per.	2.24	3,716	729	284	155	118	86	247	104
	79,896	Ma.	2.30	1,684	387	151	75	61	42	125	48
	86,715	Fe.	2.19	1,681	342	132	80	57	44	122	61
	-	U.	-	1	-	1	-	-	-	-	-
FRANKLIN COUNTY,	31,484	Per.	1.84	577	64	25	20	11	7	23	17
	15,820	Ma.	1.93	258	29	12	6	4	4	22	4
	15,614	Fe.	2.04	318	34	13	14	7	3	6	13
	-	U.	-	1	1	-	-	-	-	-	-
HAMPDEN COUNTY,	57,868	Per.	2.14	1,230	240	101	55	35	24	57	31
	27,221	Ma.	2.32	631	125	45	37	20	16	37	18
	30,145	Fe.	1.96	591	110	55	27	15	8	30	13
	-	U.	-	8	5	1	-	-	-	-	-
HAMPSHIRE Co.,	37,823	Per.	2.17	822	152	48	32	20	15	46	16
	18,596	Ma.	2.08	388	72	25	18	11	9	19	10
	19,228	Fe.	2.26	433	77	23	14	9	6	27	6
	-	U.	-	6	3	-	-	-	-	-	-
MIDDLESEX COUNTY,	216,854	Per.	1.95	4,223	796	301	152	104	71	222	96
	102,185	Ma.	2.02	2,085	438	159	77	47	31	125	57
	113,219	Fe.	1.88	2,131	358	142	75	57	40	97	39
	-	U.	-	7	7	-	-	-	-	-	-
NANTUCKET Co.,	6,094	Per.	2.18	133	9	7	2	3	9	21	13
	2,792	Ma.	1.98	54	5	3	2	-	3	9	4
	3,302	Fe.	2.39	79	4	4	-	3	6	12	9
NORFOLK COUNTY,	109,950	Per.	2.02	2,222	413	186	61	56	43	123	56
	52,790	Ma.	2.03	1,073	214	80	35	34	19	64	23
	57,160	Fe.	2.00	1,144	194	106	46	22	23	59	33
	-	U.	-	6	5	-	-	-	-	-	-
PLYMOUTH COUNTY,	64,768	Per.	2.15	1,390	224	99	43	35	26	58	42
	32,207	Ma.	2.23	717	124	48	18	16	14	29	24
	32,561	Fe.	2.06	672	101	51	25	19	12	29	18
	-	U.	-	1	1	-	-	-	-	-	-
SUFFOLK COUNTY,	192,700	Per.	2.52	4,856	1,112	405	243	119	98	198	80
	92,141	Ma.	2.59	2,481	575	216	124	61	53	93	42
	100,559	Fe.	2.36	2,375	535	189	123	58	45	102	38
	-	U.	-	2	2	-	-	-	-	-	-
WORCESTER Co.,	159,659	Per.	2.18	3,453	625	300	143	106	77	194	100
	79,523	Ma.	2.13	1,734	342	161	80	43	38	99	58
	80,133	Fe.	2.14	1,711	275	139	68	58	39	95	42
	-	U.	-	8	8	-	-	-	-	-	-

## AND BY COUNTIES AND TOWNS—1865.

and Town in the State, during the year 1865,—in connection with the Population, with the Percentage of the registered Number of Deaths to the Population.

15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 to 75.	75 to 80.	80 to 85.	85 to 90.	90 to 95.	95 and over.	Unknown.
1128	1,499	1,238	1,036	1102	981	893	829	858	940	1009	944	936	774	499	189	47	185
533	770	602	508	551	455	454	427	453	480	524	481	411	328	175	40	9	94
559	729	736	568	551	406	379	402	406	460	486	513	525	446	264	99	88	88
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8
31	51	41	19	26	19	19	21	17	23	32	28	42	17	13	8	3	5
17	33	22	8	15	6	10	11	10	18	16	21	7	7	1	1	2	4
14	19	19	11	11	12	9	10	7	13	14	12	21	10	6	7	1	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
49	63	46	38	57	34	31	23	29	51	44	53	39	30	16	8	3	24
21	38	20	18	27	16	12	12	14	23	25	27	18	16	9	3	8	12
23	25	26	20	30	18	19	11	15	29	19	25	21	14	7	5	8	12
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
69	75	94	43	33	56	68	70	75	81	77	80	59	51	30	16	5	26
33	37	48	23	42	29	38	34	45	52	41	39	25	26	12	6	1	18
36	38	46	25	41	27	30	33	30	29	36	41	34	25	18	10	4	8
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	4	5	1	4	2	2	3	1	4	7	1	5	5	2	-	-	1
3	2	5	1	1	1	2	2	1	5	5	1	3	1	2	-	-	-
-	2	-	1	3	-	-	1	-	1	2	-	2	4	3	2	-	1
133	213	175	151	133	95	81	106	114	118	133	122	131	121	62	17	7	22
90	102	78	71	62	44	43	65	61	71	66	60	57	43	23	6	2	13
93	111	102	80	71	51	38	41	53	47	73	62	78	78	40	11	5	9
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	29	26	20	20	29	25	27	24	26	37	24	41	28	14	2	2	4
10	18	12	10	8	12	11	8	11	14	22	6	20	15	3	1	-	1
17	16	14	10	12	17	14	19	13	12	15	18	21	13	11	1	2	3
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
53	75	63	41	40	31	47	43	43	33	45	45	40	41	21	4	1	13
27	45	27	15	20	20	24	23	19	21	25	24	19	23	8	2	-	6
26	30	36	26	20	11	23	18	24	17	19	21	21	18	18	2	1	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	37	36	31	41	21	30	29	23	27	32	29	31	37	15	4	-	22
12	22	18	13	18	9	12	14	13	17	8	16	15	6	1	-	-	8
30	15	18	13	23	12	13	15	10	15	15	21	15	23	9	3	-	12
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
179	231	213	183	197	151	131	132	143	160	179	157	162	180	71	22	5	30
79	100	83	89	101	88	86	66	71	67	87	67	69	51	31	8	-	12
100	121	130	94	96	65	45	66	77	93	92	90	93	79	40	14	5	18
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	6	5	2	4	2	1	5	1	2	4	11	3	11	4	1	2	-
3	4	2	2	1	1	1	1	1	1	1	4	1	4	-	-	-	-
2	2	3	-	2	1	-	4	1	1	3	7	2	6	4	1	2	-
98	125	108	94	79	61	71	68	70	86	92	70	88	64	55	17	6	18
45	58	58	38	39	33	33	29	37	43	37	38	27	24	24	3	1	9
53	67	50	53	40	23	33	39	33	33	35	32	56	40	31	14	5	9
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
56	76	79	52	43	41	40	34	59	62	71	70	73	54	34	7	1	7
23	44	42	28	24	19	20	20	30	30	43	35	42	21	15	1	1	4
33	32	37	24	24	17	21	14	29	32	28	35	30	33	19	6	-	3
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
184	310	279	200	242	203	192	153	151	150	134	115	98	81	35	14	2	-
96	161	120	136	135	117	103	89	91	76	63	42	31	34	11	2	-	-
86	149	159	124	107	86	84	64	60	74	71	73	63	47	24	12	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
148	204	168	126	123	116	95	112	96	112	117	140	131	104	64	17	10	13
77	112	72	59	57	57	50	43	45	63	64	64	62	47	25	6	2	8
71	92	96	67	71	59	45	64	53	49	63	76	69	57	39	11	8	5

TABLE VII.—Continued.

Counties and Towns.	POPULATION—1860.		DEATHS.			Under 1.	1 to 2.	2 to 3.	3 to 4.
	Persons.	Sex.	Per cent. to Pop.	Persons.	Sex.				
BARNSTABLE COUNTY, .	35,990*	Per.	.	.	.	84	40	20	6
		Ma.	.	.	.	44	19	12	—
		Fe.	1.72	617	823	39	21	8	6
		U.	.	.	1	1	—	—	—
Barnstable, . .	5,129	Ma.	.	.	27	3	3	—	—
		Fe.	1.17	60	33	7	2	—	1
Brewster, . .	1,489	Ma.	.	.	14	3	2	—	—
		Fe.	2.22	33	19	—	1	—	8
Chatham, . .	2,710	Ma.	.	.	21	—	—	8	—
		Fe.	1.59	43	22	4	—	—	—
Dennis, . . .	3,662	Ma.	.	.	31	1	2	2	—
		Fe.	1.75	64	33	3	2	1	—
Eastham, . .	779	Ma.	.	.	8	2	1	—	—
		Fe.	1.93	15	7	—	—	—	—
Falmouth, . .	2,456	Ma.	.	.	28	—	1	—	—
		Fe.	2.12	52	24	2	1	1	—
Harwich, . .	3,423	Ma.	.	.	25	1	2	2	—
		Fe.	1.40	48	23	2	3	—	—
Orleans, . . .	1,678	Ma.	.	.	17	1	—	1	—
		Fe.	1.85	31	14	1	—	—	—
Provincetown, .	3,206	Ma.	.	.	31	6	1	1	—
		Fe.	1.56	50	19	4	2	1	—
Sandwich, . .	4,479	Ma.	.	.	54	9	2	2	—
		Fe.	2.01	90	36	8	4	2	—
Truro, . . .	1,583	Ma.	.	.	19	7	1	1	—
		Fe.	2.02	32	13	1	2	—	1
Wellfleet, . .	2,322	Ma.	.	.	25	3	2	—	—
		Fe.	2.20	51	25	3	3	1	1
		U.	.	.	1	1	—	—	—
Yarmouth, . .	2,752	Ma.	.	.	23	6	2	—	—
		Fe.	1.74	48	25	4	1	2	—
BERKSHIRE COUNTY, .	55,120	Per.	.	.	.	117	75	48	34
		Ma.	.	.	520	69	45	21	20
		Fe.	1.85	1,019	497	47	29	27	14
		U.	.	.	2	1	1	—	—

\* Including 143 males and 179 females in Marshpee District.



TABLE VII.—Continued.

Counties and Towns.	POPULATION—1860.			DEATHS.			Under 1.	1 to 2.	2 to 3.	3 to 4.
	Persons.	Sex.		Per cent. to Pop.	Persons.	Sex.				
<i>Berkshire</i> —Con.		Ma.								
Adams, . . .	6,924	Fe.	3,804 3,620	2.09	145	84 61	17 5	7 6	2 4	6 -
Alford, . . .	542	Ma. Fe.	278 264	1.29	7	3 4	1 1	- -	- -	- -
Becket, . . .	1,578	Ma. Fe.	839 789	1.27	20	9 12	1 1	3 8	- -	- 1
Cheshire, . .	1,533	Ma. Fe.	761 772	1.44	22	8 14	- 2	1 1	- -	1 -
Clarksburg, .	420	Ma. Fe.	225 195	2.88	10	4 6	1 2	- -	1 1	- -
Dalton, . . .	1,243	Ma. Fe.	624 619	1.61	20	11 9	- -	1 -	- 1	- 1
Egremont, . .	1,079	Ma. Fe.	535 544	.73	8	3 5	1 -	- -	- 1	- -
Florida, . . .	645	Ma. Fe.	352 293	1.55	10	8 2	3 -	- -	- -	- -
Gt. Barrington,	3,871	Ma. Fe.	1,870 2,001	2.04	79	36 43	3 5	5 5	1 2	1 -
Hancock, . .	816	Ma. Fe.	407 409	1.47	12	5 7	1 -	- -	- -	- -
Hinsdale, . .	1,511	Ma. Fe.	745 766	2.12	32	16 16	3 3	3 -	2 -	- 2
Lanesborough, .	1,308	Ma. Fe. U.	652 656 .	1.61	21	11 9 1	2 2 1	1 1 -	1 1 -	1 - -
Lee, . . . .	4,420	Ma. Fe.	2,050 2,370	2.71	120	52 68	5 6	2 7	4 4	1 2
Lenox, . . .	1,711	Ma. Fe.	868 843	2.05	35	21 14	1 1	1 -	- 1	2 1
Monterey, . .	758	Ma. Fe.	388 370	1.72	13	8 5	- -	1 -	- -	- -
Mt. Washingt'n,	321	Ma. Fe.	169 152	.62	2	2 -	- -	- -	- -	- -
New Ashford, .	239	Ma. Fe.	142 97	1.26	8	2 1	1 1	- -	- -	- -

**TABLE VII.—Continued.**

[illegible]



TABLE VII.—Continued.

Counties and Towns.	POPULATION—1860.			DEATHS.			Under 1.	1 to 2.	2 to 3.	3 to 4.
	Persons.	Sex.	Per cent. to Pop.	Persons.	Sex.					
Berkshire—Con.										
New Marlboro',	1,782	Ma. 888 Fe. 894	1.85	33	17 16	1 4 1 -	-	2	-	1
Otis, . . . .	998	Ma. 495 Fe. 508	2.40	24	14 10	1 1 - 1	-	-	-	3
Peru, . . . .	499	Ma. 254 Fe. 245	2.00	10	4 6	- - - 1	-	-	-	1
Pittsfield, . .	8,045	Ma. 3,852 Fe. 4,198	1.88	151	74 77	15 5 7 2	2 -	3 3	-	-
Richmond, . .	914	Ma. 451 Fe. 463 U. .	1.81 . .	12 . .	5 6 1	- 1 - - - 1	-	-	-	-
Sandisfield, . .	1,585	Ma. 812 Fe. 778	1.45	23	13 10	- - - -	-	1 -	-	-
Savoy, . . . .	904	Ma. 465 Fe. 439	1.44	13	7 6	1 1 1 -	-	1 -	-	-
Sheffield, . .	2,621	Ma. 1,307 Fe. 1,314	2.06	54	25 29	1 3 6 -	1 -	1 2	-	-
Stockbridge, .	2,136	Ma. 991 Fe. 1,145	1.73	37	22 15	1 1 1 1	1 -	2 -	-	-
Tyringham, . .	780	Ma. 357 Fe. 373	2.19	16	8 8	2 - - -	-	-	-	-
Washington, .	948	Ma. 515 Fe. 433	.74	7	5 2	- 1 - -	-	-	-	1
W. Stockbridge,	1,589	Ma. 831 Fe. 758	1.45	23	13 10	2 - 1 1	-	2 -	-	1
Williamstown, .	2,611	Ma. 1,305 Fe. 1,306	1.95	51	27 24	4 3 1 -	3 2	3 1	-	-
Windsor, . . .	839	Ma. 453 Fe. 386	.60	5	3 2	1 - - -	-	-	-	-
BRISTOL COUNTY, .	93,794*	Per. . Ma. 45,273 Fe. 48,521 U. .	. 1.95 . .	. 1,829 . .	. 955 873 1	297 136 168 71 128 65 1 -	79 62 47 29 32 33	-	-	-
Acushnet, . . .	1,387	Ma. 683 Fe. 704	1.44	20	13 7	1 2 - -	-	-	-	-

\* Including Pawtucket 4,200; males 1,971, females 2,229.

TABLE VII.—Continued.

4 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 to 75.	75 to 80.	80 to 85.	85 to 90.	90 to 95.	95 and over.	Unknown.
1	2	2	-	-	-	-	-	-	1	-	1	-	-	1	-	2	1	-	-	-
1	1	-	2	1	3	-	1	-	1	-	1	-	-	-	2	-	-	-	-	-
-	1	-	1	1	1	1	-	-	-	-	1	-	-	-	1	-	2	-	-	-
-	1	-	-	1	1	-	-	-	-	-	1	2	2	1	-	1	-	-	-	-
-	1	-	-	-	1	-	-	-	-	-	-	1	-	-	1	-	-	1	-	-
-	1	1	5	3	1	1	7	5	-	2	3	4	6	4	-	1	-	-	-	-
2	2	7	2	1	3	2	3	4	4	4	4	5	1	2	2	2	-	1	1	8
1	-	-	-	1	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
-	2	-	-	-	-	-	1	-	1	-	1	-	-	-	1	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	1	1	1	4	1	1	-	-	1	-	-	1	2	1	2	-	-	-	-	-
-	1	1	1	1	1	1	1	1	-	-	-	-	-	2	1	-	-	-	-	-
1	-	-	-	-	-	-	-	2	-	-	-	-	2	-	-	-	-	-	-	-
-	-	1	1	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-
-	2	-	1	2	2	6	1	-	-	-	1	1	-	1	1	2	-	-	-	-
-	3	1	1	2	1	2	-	-	1	1	1	2	-	1	2	1	-	1	-	-
1	2	1	-	3	1	-	2	-	1	1	-	-	3	3	1	-	-	-	-	-
-	-	1	1	1	-	2	-	-	-	1	1	1	-	1	-	1	1	-	-	-
-	1	-	-	-	-	-	-	-	-	1	2	1	1	-	-	-	-	-	-	-
1	2	-	1	1	1	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-
-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	1	-	-	-
-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
-	-	-	-	-	-	2	-	1	-	-	-	2	-	2	1	-	-	-	-	-
-	-	-	-	-	1	1	1	2	1	-	-	-	-	1	1	-	-	-	-	-
-	4	-	1	-	1	2	-	-	-	1	2	-	1	-	1	2	-	-	-	-
-	1	-	1	-	-	2	4	-	-	-	2	-	3	1	3	1	1	-	-	-
-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
36	111	45	69	75	94	48	83	56	68	70	75	81	77	80	59	51	30	16	5	26
14	61	16	33	37	48	23	42	29	38	34	45	52	41	39	25	26	12	6	1	18
22	50	29	36	38	46	25	41	27	30	36	30	29	38	41	34	25	18	10	4	8
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	-	1	1	-	-	-	-	-	1	-	1	1	-	1	2	1	-	-	-	-
-	1	-	-	-	-	1	-	-	-	-	-	1	-	-	2	1	-	1	-	-

TABLE VII.—Continued.

Counties and Towns.	POPULATION—1860.		DEATHS.			Deaths.	1	2	3	4
	Persons.	Sex.	Per cent. to Pop.	Per one.	Sex.					
<i>Bristol</i> —Con.										
Attleborough, .	6,066	Ma. 2,931 Fe. 3,185	2.82	141	67 74	12 10	6 5	7 1	1 6	
Berkley, . . .	825	Ma. 390 Fe. 435 U. .	2.18	18	10 7 1	1 — 1	— — —	1 — —	— — —	
Dartmouth, . .	3,883	Ma. 1,904 Fe. 1,979	1.70	66	87 29	4 2	2 —	1 —	1 —	
Dighton, . . .	1,783	Ma. 826 Fe. 907	1.62	28	18 15	1 2	— 1	— 1	— 1	
Easton, . . .	3,067	Ma. 1,560 Fe. 1,507	2.12	65	37 28	8 5	3 1	— 2	— —	
Fairhaven, . .	3,118	Ma. 1,498 Fe. 1,620	1.76	55	30 25	5 2	— —	1 1	2 1	
Fall River, . .	14,026	Ma. 6,681 Fe. 7,345	2.68	376	179 197	49 41	8 12	10 11	8 10	
Freetown, . . .	1,521	Ma. 742 Fe. 779	1.64	25	16 9	1 2	1 —	— 1	— —	
Mansfield, . .	2,114	Ma. 989 Fe. 1,125	1.61	34	18 16	1 —	— 1	1 —	1 1	
New Bedford, .	22,300	Ma. 10,552 Fe. 11,748	1.99	443	242 201	45 28	20 19	12 8	8 6	
Norton, . . .	1,848	Ma. 898 Fe. 950	1.62	30	16 14	3 3	— —	— —	— —	
Raynham, . . .	1,746	Ma. 883 Fe. 863	1.78	31	17 14	2 —	2 3	1 —	1 —	
Rehoboth, . . .	1,932	Ma. 953 Fe. 979	2.02	39	13 26	1 2	— 2	1 1	1 1	
Seekonk, . . .	2,662	Ma. 1,312 Fe. 1,350	.63	17	9 8	— 1	— —	— —	— 1	
Somerset, . . .	1,793	Ma. 920 Fe. 878	1.90	34	22 12	4 3	2 —	— —	— —	
Swansey, . . .	1,430	Ma. 605 Fe. 725	2.03	29	14 15	4 2	1 —	— 1	2 —	
Taunton, . . .	15,376	Ma. 7,504 Fe. 7,872	2.24	345	187 158	26 28	23 19	10 4	4 6	

TABLE VII.—Continued.

	4 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 to 75.	75 to 80.	80 to 85.	85 to 90.	90 to 95.	95 and over.	Unknown.
2	10	—	3	3	3	—	1	2	1	—	—	2	3	1	6	3	—	—	1	—	—
2	8	4	1	2	4	1	2	4	4	4	—	1	1	3	8	1	—	1	1	—	—
—	2	—	—	—	—	—	—	—	1	—	—	1	3	1	—	—	—	—	—	—	—
1	1	—	—	1	—	—	—	—	—	—	—	1	1	—	1	—	—	1	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	3	—	3	1	3	1	3	1	—	3	1	1	2	4	1	2	4	—	—	—	—
—	3	1	2	1	1	2	3	1	1	—	—	3	1	2	1	1	2	1	—	1	—
—	—	1	1	1	—	—	—	—	—	1	—	2	—	2	2	—	1	—	—	—	1
—	2	—	—	1	—	1	—	—	—	—	1	—	1	—	1	—	—	1	—	—	2
—	3	3	1	—	2	1	1	1	—	1	1	1	—	3	3	2	2	—	2	—	—
—	—	2	1	—	4	2	1	2	—	—	1	1	1	—	2	—	1	2	—	—	—
—	1	3	1	3	2	—	4	—	—	1	—	—	—	2	—	2	1	2	—	—	—
1	3	1	1	1	2	1	—	1	2	1	2	1	2	—	1	1	—	3	—	—	—
1	11	2	6	6	11	2	8	8	6	7	7	13	7	6	2	1	—	—	—	—	—
3	10	4	8	8	10	8	10	5	6	7	4	7	8	7	8	4	2	1	3	—	—
—	2	—	1	—	1	1	1	—	—	—	—	3	1	1	—	1	1	—	—	1	—
—	—	—	2	1	1	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—
—	—	—	—	1	2	—	—	—	3	—	—	1	3	—	1	2	1	1	—	—	—
—	—	2	1	1	1	—	1	1	—	1	1	1	1	1	1	1	—	—	1	—	—
7	14	4	10	8	8	5	16	8	9	8	14	13	9	8	3	4	4	—	—	5	—
5	13	6	10	10	7	6	11	9	13	8	8	4	3	9	5	4	10	3	2	1	—
—	1	—	—	—	—	—	1	2	1	4	1	—	—	2	—	—	—	—	—	—	—
—	1	—	—	1	—	—	1	—	—	—	1	1	—	—	3	3	—	—	—	—	—
—	2	—	—	1	1	2	—	—	2	—	—	—	—	1	—	—	1	1	—	—	—
—	—	—	1	—	2	—	1	1	—	1	—	1	—	—	—	3	—	1	—	—	—
—	—	—	—	2	—	—	—	—	—	1	—	1	1	2	1	1	1	—	—	—	—
2	1	2	1	1	1	2	—	1	—	—	—	1	1	1	3	1	1	1	—	—	—
—	—	—	1	—	—	1	—	—	—	—	1	1	—	2	1	—	2	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	2	1	—	—	1	—	—
—	—	1	1	—	3	—	1	—	—	1	2	—	3	—	1	—	1	—	—	—	2
—	1	—	—	—	2	—	—	—	—	1	1	1	—	2	—	1	—	—	—	—	1
—	—	—	1	—	1	1	—	—	—	1	—	—	—	—	1	1	1	—	—	—	—
—	—	2	1	1	2	—	—	—	—	—	1	—	—	2	1	—	—	1	1	—	—
3	11	1	3	11	10	8	9	4	10	9	9	6	3	4	4	4	4	4	2	—	9
7	6	5	6	8	9	1	11	1	4	7	9	9	9	4	1	8	2	3	2	—	3

TABLE VII.—Continued.

Counties and Towns.	POPULATION—1860.			DEATHS.			Under 1.	1 to 2.	2 to 3.	3 to 4.
	Persons.	Sex.		Per cent. to Pop.	Persons.	Sex.				
<i>Bristol</i> —Con.		Ma.	1,371			15				
Westport, . .	2,767	Fe.	1,396	1.19	33	18	2	2	1	—
Dukes COUNTY, . .	4,403	Per.	.	.	.	.	7	1	2	—
		Ma.	2,362	1.48	65	37	5	—	—	—
		Fe.	2,041			28	2	1	2	—
Chilmark, . .	654	Ma.	840	1.38	9	8	—	—	—	—
		Fe.	814			1	—	—	—	—
Edgartown, . .	2,118	Ma.	1,193	1.18	25	12	2	—	—	—
		Fe.	925			18	—	1	1	—
Gosnold, . . .	—	Ma.	—	—	2	1	—	—	—	—
		Fe.	—			1	—	—	—	—
Tisbury, . . .	1,631	Ma.	829	1.78	29	16	3	—	—	—
		Fe.	802			13	2	—	1	—
Essex COUNTY, . .	165,611	Per.	.	.	.	.	729	284	155	118
		Ma.	79,866	2.24	3,716	1,834	387	151	75	61
		Fe.	85,745			1,881	342	132	80	57
		U.	.	.	.	1	—	1	—	—
Amesbury, . .	3,877	Ma.	1,929	3.33	129	63	13	4	5	2
		Fe.	1,948			66	9	6	2	2
Andover, . . .	4,765	Ma.	2,217	2.25	107	51	7	7	6	—
		Fe.	2,548			56	8	2	—	3
Beverly, . . .	6,154	Ma.	2,994	1.40	86	41	5	3	1	—
		Fe.	3,160			45	8	1	2	—
Boxford, . . .	1,020	Ma.	509	1.57	16	4	1	1	—	—
		Fe.	511			12	1	—	—	—
Bradford, . .	1,688	Ma.	814	2.01	34	16	1	1	—	—
		Fe.	874			18	1	—	—	—
Danvers, . . .	5,110	Ma.	2,572	1.78	91	33	7	3	—	—
		Fe.	2,538			58	13	4	3	1
Essex, . . . .	1,701	Ma.	882	1.85	23	12	3	2	2	—
		Fe.	819			11	4	1	1	—
Georgetown, .	2,075	Ma.	1,028	1.98	41	25	2	—	1	2
		Fe.	1,047			16	1	—	1	—

TABLE VII.—Continued.

4 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 to 75.	75 to 80.	80 to 85.	85 to 90.	90 to 95.	95 and over.	Unknown.
-	1	-	1	1	1	1	-	1	-	1	-	8	1	2	8	-	-	1	-	1
-	-	-	8	4	5	1	4	2	2	8	1	4	7	1	5	5	5	2	-	1
-	-	-	8	2	5	-	1	1	2	2	1	8	5	1	8	1	2	-	-	-
-	-	-	-	2	-	1	8	1	-	1	-	1	2	-	2	4	8	2	-	1
-	-	-	1	1	2	-	-	-	1	-	-	-	-	-	-	1	2	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
-	-	-	1	1	-	1	-	-	1	-	-	2	2	-	8	-	2	-	-	-
-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	2	8	2	1	-	1
-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
-	-	-	1	1	2	-	1	1	-	1	1	1	8	1	-	-	-	-	-	-
-	-	-	-	1	-	-	8	1	-	1	-	-	1	-	-	1	1	1	-	-
86	247	104	183	213	175	151	133	95	81	106	114	118	138	122	135	121	62	17	7	22
42	125	43	90	102	73	71	62	44	43	65	61	71	65	60	57	43	22	6	2	13
44	122	61	93	111	102	80	71	51	88	41	53	47	78	62	78	78	40	11	5	9
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	7	8	-	7	4	1	1	1	-	2	2	1	-	2	2	-	-	2	-	-
2	6	-	5	6	7	5	2	-	2	-	2	1	1	2	2	2	-	2	-	-
-	2	-	1	8	1	2	8	-	8	2	2	1	2	5	1	8	-	-	-	-
1	4	3	8	8	4	1	2	8	8	1	1	2	2	-	1	2	2	-	-	-
-	2	1	4	2	-	-	1	3	1	6	1	1	1	2	8	1	1	-	-	2
-	1	2	3	2	2	4	-	1	1	1	1	2	8	8	8	5	-	-	-	-
-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-
-	1	-	2	1	-	3	-	2	-	-	-	1	-	-	-	-	1	-	-	-
1	1	-	1	-	1	2	-	-	1	1	-	1	2	2	1	-	-	-	-	-
-	8	1	2	2	3	1	1	-	-	-	-	-	2	-	1	1	-	-	-	-
-	-	1	2	2	2	1	1	2	-	1	1	-	4	2	4	-	-	-	-	-
1	6	3	4	2	5	1	-	1	1	-	8	1	4	-	2	2	1	-	-	-
-	1	2	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-
-	-	-	-	-	-	1	-	-	1	-	-	-	-	1	1	-	1	-	-	-
-	2	2	1	-	2	-	1	-	-	-	2	8	2	2	1	-	-	1	1	1
-	2	1	1	-	1	1	1	-	1	-	-	-	1	1	1	1	1	1	-	-

TABLE VII.—Continued.

Counties and Towns.	POPULATION—1860.			DEATHS.			Under 1.	1 to 2.	2 to 3.	3 to 4.
	Persons.	Sex.		Percent to Pop.	Persons.	Sex.				
<i>Essex</i> —Con.										
Gloucester, . .	10,904	Ma. Fe.	5,711 5,193	2.69	293	160 133	89 85	21 9	11 8	5 8
Groveland, . .	1,448	Ma. Fe. U.	739 709 .	2.90 . .	42 . .	19 22 1	3 2 —	1 2 1	2 2 —	3 1 —
Hamilton, . .	789	Ma. Fe.	395 394	1.65	13	10 3	2 —	1 —	— —	— —
Haverhill, . .	9,995	Ma. Fe.	5,000 4,995	1.75	175	89 86	13 15	5 5	5 4	4 3
Ipswich, . . .	3,300	Ma. Fe.	1,631 1,669	2.21	73	29 44	7 7	— 2	— 1	— —
Lawrence, . .	17,639	Ma. Fe.	8,150 9,489	3.16	557	264 293	84 74	24 28	13 20	11 13
Lynn, . . .	19,083	Ma. Fe.	9,142 9,941	2.41	459	219 240	48 43	21 15	7 7	8 4
Lynnfield, . .	866	Ma. Fe.	431 435	1.85	16	9 7	— —	2 —	— —	— —
Manchester, .	1,698	Ma. Fe.	815 883	1.94	33	15 18	4 2	1 —	— —	2 1
Marblehead, .	7,646	Ma. Fe.	3,817 3,829	3.23	247	132 115	25 24	13 11	4 3	5 8
Methuen, . .	2,566	Ma. Fe.	1,243 1,323	2.57	66	34 32	5 2	7 4	1 3	1 —
Middleton, . .	940	Ma. Fe.	489 451	.94	9	6 3	1 1	— —	— —	— —
Nahant, . . .	380	Ma. Fe.	189 191	1.05	4	2 2	— —	— —	2 —	— —
Newbury, . .	1,444	Ma. Fe.	721 723	2.08	30	17 13	2 —	1 2	— —	— 2
Newburyport, .	13,401	Ma. Fe.	6,018 7,383	1.69	226	92 134	14 25	8 11	2 4	4 3
North Andover,	2,343	Ma. Fe.	1,194 1,149	1.88	44	26 18	2 1	— 1	2 —	— —
Rockport, . .	3,237	Ma. Fe.	1,640 1,597	2.13	69	40 29	12 4	1 2	4 —	1 —

TABLE VII.—Continued.

4 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 to 75.	75 to 80.	80 to 85.	85 to 90.	90 to 95.	95 and over.	Unknown.
2	3	6	3	6	3	5	4	2	6	8	4	6	7	5	2	1	5	1	1	4
3	9	5	5	5	9	8	6	1	1	3	5	2	4	3	3	4	1	-	-	1
1	2	-	-	1	-	1	-	-	-	-	-	1	-	-	1	2	-	-	-	1
1	2	1	-	2	1	-	-	1	-	-	-	2	2	-	-	1	1	1	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	2	-	-	-	-	-	2	-	2	-	-	-	1	-	-	-
-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	1	-	-
4	5	2	5	4	4	1	7	2	3	3	5	3	5	2	3	2	-	-	-	2
-	2	1	4	12	4	5	4	1	-	-	4	4	4	5	4	2	2	-	-	1
-	-	-	-	7	2	1	1	-	-	-	2	1	4	1	1	2	-	-	-	-
-	-	-	3	2	1	3	-	1	2	-	1	2	3	2	2	6	4	1	1	-
3	24	6	15	12	10	8	7	3	6	11	7	9	3	1	3	2	2	-	-	-
9	14	11	16	22	17	13	9	8	6	8	2	7	5	2	6	3	-	-	-	-
7	19	2	8	12	7	15	8	7	3	8	3	5	8	7	6	4	3	2	-	1
8	22	4	11	17	20	12	14	12	1	9	7	4	4	11	7	1	5	-	-	2
-	1	-	-	-	-	1	-	1	-	-	-	3	1	-	-	-	-	-	-	-
1	-	-	-	1	-	-	-	1	-	1	-	-	-	-	1	2	-	-	-	-
1	1	1	-	1	1	1	1	-	-	-	-	-	-	1	-	-	-	-	-	-
-	-	1	-	1	1	-	-	1	2	1	1	-	3	2	1	1	-	-	-	-
5	13	3	5	5	5	6	4	3	3	3	2	6	5	5	6	3	2	1	-	-
6	18	4	2	3	4	3	2	-	2	1	5	1	5	3	2	3	5	-	-	-
4	1	-	-	1	1	3	1	1	-	-	4	2	1	-	-	-	1	-	-	-
1	3	2	-	3	-	1	2	2	1	3	1	-	1	1	1	-	-	1	-	-
-	-	-	-	-	-	1	-	1	-	-	-	-	2	1	-	-	-	-	-	-
-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	2	1	1	-	-	-	1	-	-	-	2	1	1	2	2	-	1	-	-	-
-	-	-	1	-	-	2	-	1	-	-	1	1	2	-	1	-	-	-	-	-
2	3	3	7	8	7	4	3	2	1	7	3	4	2	1	-	5	1	-	-	1
3	4	1	6	3	3	2	2	2	4	2	4	5	9	11	13	10	4	-	2	1
-	2	1	4	2	1	1	2	1	1	-	1	1	-	2	2	1	-	-	-	-
-	1	1	3	-	2	-	1	2	-	1	-	-	-	-	2	-	2	1	-	-
1	3	2	1	2	2	-	1	-	-	2	2	1	2	-	1	1	1	-	-	-
1	-	1	4	1	2	3	2	-	1	-	1	-	1	1	-	2	-	1	1	2



TABLE VII.—Continued.

Counties and Towns.	POPULATION—1860.			DEATHS.			Under 1.	1 to 2.	3 to 4.	5 to 6.
	Persons.	Sex.	Per cent to Pop.	Persons.	Sex.					
Essex—Con.										
Rowley, . . .	1,278	Ma. 646 Fe. 632	2.19	28	13 15	2 —	2 —	1 —	—	—
Salem, . . .	22,252	Ma. 10,088 Fe. 12,214	2.01	448	231 217	48 46	16 9	2 6	6 4	—
Salisbury, . .	3,310	Ma. 1,536 Fe. 1,774	3.11	103	53 50	9 4	3 5	2 5	2 —	—
Saugus, . . .	2,024	Ma. 998 Fe. 1,026	2.03	41	27 14	3 1	1 1	1 3	—	—
South Danvers,	6,549	Ma. 3,308 Fe. 3,241	1.65	108	50 58	18 8	— 4	1 4	1 2	—
Swampscott, .	1,530	Ma. 720 Fe. 810	1.44	22	11 11	— 1	1 1	— 1	1 1	—
Topsfield, . .	1,292	Ma. 664 Fe. 628	1.55	20	12 8	3 —	— 1	— —	— —	—
Wenham, . . .	1,105	Ma. 578 Fe. 527	1.09	12	6 6	1 —	1 1	— —	1 —	—
West Newbury,	2,202	Ma. 1,108 Fe. 1,094	2.32	51	23 28	3 2	— 4	— —	2 —	—
FRANKLIN COUNTY, .	31,434	Per. . Ma. 15,820 Fe. 15,614 U. .	. 1.84 . .	. 577 . .	. 258 318 1	64 29 34 1	25 12 13 —	20 6 14 —	11 4 7 —	—
Ashfield, . . .	1,302	Ma. 657 Fe. 645	1.00	13	6 7	— —	— 1	— —	— —	—
Bernardston, .	968	Ma. 477 Fe. 491	1.14	11	6 5	— 1	— —	— —	1 —	—
Buckland, . .	1,702	Ma. 849 Fe. 853	3.00	51	28 23	3 1	5 3	2 2	1 1	—
Charlemont, .	1,075	Ma. 520 Fe. 555	1.02	11	5 6	— —	— —	— —	— —	—
Colrain, . . .	1,798	Ma. 901 Fe. 897	1.89	34	18 16	1 2	— 2	— —	— 1	—
Conway, . . .	1,689	Ma. 869 Fe. 820	1.84	31	12 19	4 3	— —	— —	1 —	—

TABLE VII.—Continued.

4 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 to 75.	75 to 80.	80 to 85.	85 to 90.	90 to 95.	95 and over.	Unknown.
-	1	-	1	1	-	-	-	-	-	-	-	-	-	2	2	1	-	-	-	-
-	1	-	-	-	1	-	1	1	-	1	1	1	2	2	1	2	-	-	-	-
4	16	6	17	18	11	8	9	11	6	5	7	18	8	6	8	9	2	-	-	-
8	10	9	5	8	8	9	10	7	5	7	8	8	10	6	14	15	7	1	1	1
1	8	1	2	2	2	5	1	3	1	1	2	1	8	1	8	-	-	-	-	-
2	6	1	3	2	1	1	1	1	2	-	1	3	2	1	3	4	1	1	-	-
1	-	-	3	1	2	2	1	-	1	1	1	2	1	3	1	1	-	-	-	1
-	1	3	-	-	-	-	-	-	-	-	-	-	-	2	-	2	1	-	-	-
-	8	-	2	2	2	-	1	1	4	2	3	2	3	2	-	2	1	-	-	-
-	-	4	6	2	4	3	7	1	1	1	3	-	1	2	1	3	1	-	-	-
-	1	-	1	-	-	-	1	-	1	2	2	-	-	-	1	-	-	-	-	-
-	2	-	1	1	1	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-
-	-	-	8	-	1	-	-	-	1	-	1	1	-	-	1	1	-	-	-	-
-	-	1	1	-	-	1	-	-	1	-	-	-	-	-	1	-	1	-	-	1
1	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-
-	1	-	-	-	-	-	1	-	-	1	-	-	-	-	2	-	-	-	-	-
-	2	-	3	1	2	2	1	-	-	-	-	2	1	2	1	1	-	-	-	-
2	3	1	2	3	1	-	2	1	-	-	-	-	1	1	2	3	-	-	-	-
7	28	17	27	29	26	20	20	29	25	27	24	26	37	24	41	28	14	2	2	4
4	22	4	10	13	12	10	8	12	11	8	11	14	22	6	20	15	8	1	-	1
3	6	13	17	16	14	10	12	17	14	19	13	12	15	18	21	13	11	1	2	3
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	1	-	-	-	-	-	-	-	3	1	1	-	-	-	-	-
-	-	-	1	-	-	-	-	-	1	-	-	1	-	-	1	1	-	-	-	-
-	-	-	-	2	-	-	-	1	1	2	-	-	2	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
1	6	-	-	8	-	-	1	-	1	-	1	-	1	-	1	-	2	-	-	-
-	1	2	2	1	1	1	-	2	2	-	-	3	-	-	-	1	-	-	-	-
-	1	-	1	1	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-
-	-	-	-	2	1	-	-	-	-	-	1	-	-	1	-	1	-	-	-	-
-	-	-	-	1	8	-	-	3	-	1	-	3	2	2	1	1	-	-	-	-
-	-	-	1	-	1	1	-	-	-	3	1	-	1	1	2	-	-	-	-	-
-	1	-	-	-	-	1	-	-	1	-	-	1	-	-	-	3	-	-	-	-
-	-	-	1	2	-	2	1	-	-	3	1	-	1	2	-	3	-	-	-	-

TABLE VII.—Continued.

Counties and Towns.	POPULATION—1860.		Percent. to Pop.	DEATHS.		Under 1.	1 to 2.	3 to 4.	5 to 6.
	Persons.	Sex.		Persons.	Sex.				
<i>Franklin—Con.</i>									
Deerfield, . . .	8,073	Ma. 1,588 Fe. 1,485	1.33	41	17 24	4 4	—	—	—
Erving, . . . .	527	Ma. 291 Fe. 236	2.09	11	7 4	2	—	—	—
Gill, . . . . .	683	Ma. 335 Fe. 348	1.32	9	3 6	—	—	—	—
Greenfield, . .	8,198	Ma. 1,593 Fe. 1,605	1.56	50	24 26	3 1	4	1	—
Hawley, . . . .	671	Ma. 357 Fe. 314	1.49	10	3 7	—	1	—	—
Heath, . . . . .	661	Ma. 341 Fe. 320	2.12	14	8 6	—	—	—	—
Leverett, . . .	964	Ma. 472 Fe. 492	1.87	18	8 10	—	1	—	—
Leyden, . . . .	606	Ma. 316 Fe. 290	1.49	9	2 7	—	—	—	—
Monroe, . . . .	286	Ma. 122 Fe. 114	.84	2	1 1	—	—	—	—
Montague, . . .	1,593	Ma. 810 Fe. 783	1.19	19	12 7	—	—	—	—
New Salem, . .	957	Ma. 468 Fe. 489	2.93	28	12 16	2	—	—	—
Northfield, . .	1,712	Ma. 840 Fe. 872	1.93	33	9 24	—	—	—	1
Orange, . . . .	1,622	Ma. 801 Fe. 821	2.77	45	17 28	3 5	—	1	—
Rowe, . . . . .	619	Ma. 323 Fe. 291	1.29	8	4 4	—	—	—	—
Sherburne, . . .	1,448	Ma. 720 Fe. 728	2.62	38	15 23	8 6	—	—	—
Shutesbury, . .	798	Ma. 404 Fe. 394	2.01	16	5 11	1 1	—	—	—
Sunderland, . .	839	Ma. 418 Fe. 421	2.62	22	8 14	—	—	—	—

TABLE VII.—Continued.

4 to 4.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 to 75.	75 to 80.	80 to 85.	85 to 90.	90 to 95.	95 and over.	Unknown.
-	2	1	1	1	-	1	-	-	1	1	-	1	1	-	1	2	-	-	-	-
-	2	2	-	1	-	-	-	1	8	-	1	-	1	1	1	-	-	1	-	-
1	-	-	-	1	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-
-	-	-	1	-	-	-	1	-	1	-	-	-	1	-	-	-	-	-	-	-
-	-	1	-	-	-	-	-	-	1	-	-	-	1	1	1	-	-	-	-	-
-	8	1	-	1	-	1	2	2	-	-	2	-	8	-	-	-	-	-	-	1
-	1	1	-	2	2	5	2	3	-	-	1	-	1	-	8	1	2	-	2	2
-	-	-	-	-	-	-	2	-	1	-	1	-	-	-	1	1	1	1	-	-
-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	2	-	-	-	-
-	1	-	-	-	-	1	1	-	-	-	1	1	1	1	-	2	-	-	-	-
-	-	-	1	-	-	-	-	-	1	1	-	-	1	1	2	-	-	-	-	-
-	-	1	1	-	1	-	-	1	-	2	1	2	1	-	1	-	1	-	-	-
-	-	2	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-
-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	1	1	1	1	1	-	1	2	-	2	1	-	1	3	-	-	-	-	-
-	-	1	1	-	-	-	1	1	-	-	1	-	1	-	-	-	-	-	-	-
-	-	-	2	-	-	-	-	-	-	1	3	-	8	1	-	-	-	-	-	-
-	-	3	-	-	1	-	-	1	1	1	2	2	8	2	-	-	2	-	-	-
-	1	-	1	1	1	1	-	2	-	-	-	-	1	-	-	-	-	1	-	-
-	1	-	8	2	-	-	1	1	3	3	2	-	2	2	2	-	-	-	-	-
-	3	-	1	-	1	-	-	-	-	2	1	1	2	-	1	1	-	-	-	-
1	1	1	2	2	2	-	1	1	1	1	1	1	-	1	1	2	-	-	-	-
-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	2	-	-	-	-	-
1	-	-	1	-	2	1	3	-	-	-	-	1	-	-	1	2	-	-	-	-
2	-	-	3	-	1	1	-	1	-	-	1	-	-	2	-	-	2	-	-	-
-	2	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-
-	-	-	-	1	2	-	-	-	-	-	1	-	1	4	-	-	1	-	-	-
-	-	-	1	-	1	1	-	1	-	-	-	-	1	1	2	-	-	-	-	-
-	-	-	-	2	-	-	1	3	-	1	-	-	1	-	2	1	-	-	-	1

TABLE VII.—Continued.

Counties and Towns.	POPULATION—1860.			DEATHS.			Under 1.	1 to 2.	2 to 3.	3 to 4.
	Persons.	Sex.	Per cent. to Pop.	Persons.	Sex.					
Franklin—Con.		Ma.	452	2.58	24	13	2	2	—	—
Warwick, . .	982	Fe.	480			10	1	—	2	1
		U.	—			1	1	—	—	—
Wendell, . .	704	Ma.	347	2.18	15	11	1	1	1	—
		Fe.	857			4	—	—	—	—
Whately, . .	1,057	Ma.	544	1.32	14	4	—	—	—	—
		Fe.	513			10	3	—	1	—
HAMPDEN COUNTY, .	57,866	Per.	.	.	.	.	240	101	55	35
		Ma.	27,221	2.14	1,230	681	125	45	27	20
		Fe.	80,145			591	110	55	27	15
		U.	.			8	5	1	1	—
Agawam, . .	1,698	Ma.	826	1.30	22	10	1	—	—	—
		Fe.	872			11	2	—	—	—
		U.	.			1	1	—	—	—
Blandford, . .	1,256	Ma.	631	1.59	20	12	—	1	—	1
		Fe.	625			8	1	1	1	—
Brimfield, . .	1,863	Ma.	683	1.69	23	14	1	—	—	1
		Fe.	680			9	3	1	—	—
Chester, . . .	1,814	Ma.	666	1.07	14	7	—	—	1	—
		Fe.	648			7	1	1	1	—
Chicopee, . .	7,261	Ma.	3,174	2.66	193	97	25	9	6	3
		Fe.	4,087			96	18	13	6	2
Granville, . .	1,885	Ma.	690	1.95	27	10	3	—	1	—
		Fe.	695			17	1	2	—	1
Holland, . . .	419	Ma.	221	2.15	9	4	1	—	—	1
		Fe.	198			5	1	—	—	—
Holyoke, . . .	4,997	Ma.	2,225	2.42	121	69	15	6	3	5
		Fe.	2,772			51	11	8	4	4
		U.	.			1	1	—	—	—
Longmeadow, .	1,376	Ma.	651	2.18	80	14	5	—	—	—
		Fe.	725			16	2	1	1	—
Ludlow, . . .	1,174	Ma.	570	1.70	20	9	1	1	—	—
		Fe.	604			8	1	—	—	—
		U.	.			3	2	—	1	—
Monson, . . .	3,164	Ma.	1,564	1.26	40	20	—	—	2	—
		Fe.	1,600			20	1	—	—	—

TABLE VII.—Continued.

4 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 to 75.	75 to 80.	80 to 85.	85 to 90.	90 to 95.	95 and over.	Unknown.
-	-	1	-	-	1	2	-	1	-	-	-	-	1	-	-	3	-	-	-	-
-	-	-	-	1	-	-	-	2	-	-	-	-	-	-	1	1	1	-	-	-
1	2	-	-	1	1	-	-	1	-	-	-	1	-	-	-	1	-	-	-	-
-	-	-	-	-	-	-	-	-	1	-	-	-	2	-	-	-	1	-	-	-
-	-	-	-	-	-	-	1	-	-	-	-	1	1	-	1	-	-	-	-	-
-	-	-	1	-	1	-	2	-	-	-	-	-	-	-	1	-	-	-	-	-
24	57	81	53	75	63	41	40	31	47	46	43	38	45	45	40	41	21	4	1	13
16	27	18	27	45	27	15	20	20	24	28	19	21	26	24	19	23	8	2	-	5
8	30	18	28	30	36	26	20	11	23	18	24	17	19	21	21	18	18	2	1	7
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
-	2	-	1	-	-	-	-	1	1	1	-	-	1	-	-	2	-	-	-	-
-	2	-	-	-	1	-	-	1	2	-	-	-	-	1	2	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	1	2	2	-	-	-	-	-	-	2	-	1	-	1	-	-	1	-	-	-
-	-	-	-	-	1	-	-	1	-	1	-	1	1	1	-	-	-	-	-	-
-	1	1	1	2	-	-	-	3	-	-	-	-	1	2	-	1	-	-	-	-
-	1	-	1	-	-	-	-	-	-	-	1	1	-	-	1	-	-	-	-	-
-	-	-	-	1	1	-	1	-	-	-	-	-	1	2	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-	-	-	-	-
6	4	1	3	5	5	3	3	2	6	1	6	1	2	-	2	3	-	1	-	-
1	2	1	5	4	9	6	3	3	3	5	4	2	5	1	2	1	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	-	-	1	1	-	3	-	2	-	-	1	-	1	-	1	1	1	-	-	-
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	-	-	-
2	4	3	5	4	3	-	-	3	2	5	1	1	3	2	-	1	-	-	-	1
-	2	2	1	6	4	1	1	-	2	1	1	1	1	-	-	1	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	2	-	1	2	-	-	-	-	-	-	-	-	-	-	3	1	-	-	-	-
1	-	1	1	-	1	-	-	-	1	-	-	1	1	1	1	1	2	-	-	-
-	-	1	-	1	-	-	1	1	-	1	-	-	1	1	-	-	-	-	-	-
-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	-	1	1	2	3	1	-	1	-	2	2	-	-	1	2	1	-	-	-	-
-	1	1	2	1	3	-	2	-	-	1	2	1	-	1	1	2	-	-	1	-

TABLE VII.—Continued.

Counties and Towns.	POPULATION—1860.		Per cent. to Pop.	DEATHS.		Under 1.	1 to 2.	2 to 3.	3 to 4.
	Persons.	Sex.		Persons.	Sex.				
<i>Hampden—Con.</i>									
St. Almshouse,	-	Ma.	-	92	54	18	8	2	1
at Monson, .		Fe.	-		38	11	8	2	-
Montgomery, .	371	Ma.	180	1.08	4	2	1	-	-
		Fe.	191		2	-	-	-	-
Palmer, . . .	4,082	Ma.	1,951	1.22	50	25	8	2	8
		Fe.	2,131		25	2	2	1	1
Russell, . . .	605	Ma.	297	1.32	8	5	-	-	-
		Fe.	308		3	1	-	-	-
Southwick, . .	1,188	Ma.	602	1.01	12	7	1	-	-
		Fe.	586		5	-	-	-	-
Springfield, .	15,199	Ma.	7,227	2.32	353	181	40	17	6
		Fe.	7,972		172	45	18	5	5
Tolland, . . .	596	Ma.	305	.50	8	-	-	-	-
		Fe.	291		3	-	-	-	-
Wales, . . .	677	Ma.	347	1.08	7	2	1	-	-
		Fe.	330		5	-	-	-	-
Westfield, . .	5,055	Ma.	2,463	2.02	102	48	7	2	-
		Fe.	2,592		51	4	4	1	4
		U.	.		-	1	1	-	-
W. Springfield,	2,105	Ma.	926	2.42	51	22	2	1	2
		Fe.	1,179		29	5	4	1	-
Wilbraham, . .	2,081	Ma.	1,022	1.39	20	19	-	3	1
		Fe.	1,059		10	-	-	1	1
HAMPSHIRE {	37,823	Per.	.	.	.	152	48	32	20
COUNTY, .		Ma.	18,595	2.17	822	383	72	25	18
		Fe.	19,228		433	77	28	14	9
		U.	.		6	3	-	-	-
Amherst, . . .	3,206	Ma.	1,569	1.87	60	31	6	1	-
		Fe.	1,637		29	2	1	-	-
Belchertown, .	2,709	Ma.	1,334	1.40	38	19	2	1	1
		Fe.	1,375		16	2	1	1	-
		U.	.		3	3	-	-	-
Chesterfield, .	897	Ma.	452	1.45	13	8	1	-	-
		Fe.	445		5	1	1	-	-

TABLE VII.—Continued.

4 to 4.	5 to 10.	10 to 14.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 to 75.	75 to 80.	80 to 85.	85 to 90.	90 to 95.	95 and over.	Unknown.
2	5	-	-	8	1	1	3	1	3	3	1	2	1	1	-	1	2	-	-	-
3	8	1	2	1	1	1	8	-	1	-	1	1	2	1	1	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
1	8	-	2	3	-	-	-	-	1	-	1	-	1	1	4	-	-	-	-	-
2	2	-	2	-	2	1	1	-	3	1	1	1	1	1	1	1	1	-	-	-
-	-	-	-	-	-	-	-	1	-	1	-	-	1	1	-	-	-	-	1	-
-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
-	1	-	-	-	-	1	-	-	-	-	-	-	1	-	-	1	1	-	1	-
-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	2	1	-	-	-
1	1	5	7	14	12	6	7	6	10	8	6	7	6	10	8	4	1	-	-	-
1	10	6	8	8	13	5	6	1	9	5	5	6	1	6	3	2	3	1	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-
-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-
-	2	3	1	5	-	2	2	1	1	2	2	2	5	1	3	2	2	1	-	1
-	1	-	4	1	5	4	-	-	-	3	5	-	3	4	2	3	-	-	6	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
2	1	1	2	1	-	-	2	-	-	1	-	2	1	1	-	2	-	-	-	-
-	1	1	1	4	-	2	-	1	-	1	-	2	1	-	1	2	1	1	-	-
1	-	-	1	1	2	1	1	-	-	1	-	1	1	-	1	3	-	-	1	-
-	1	-	-	-	-	2	-	1	1	-	1	-	1	-	-	-	-	-	1	-
15	46	16	48	87	36	31	41	21	30	29	28	27	32	29	31	37	15	4	-	22
9	19	10	12	22	18	13	18	9	12	14	18	12	17	8	16	15	6	1	-	8
6	27	6	30	15	18	18	23	12	18	15	10	15	15	21	15	22	9	8	-	12
-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
-	2	1	1	1	-	-	1	1	3	2	4	-	3	-	2	1	-	-	-	-
2	3	-	1	1	1	2	2	1	1	2	-	1	3	1	2	1	2	-	-	-
1	-	-	-	3	1	1	-	1	-	1	-	-	1	-	2	1	1	-	-	2
-	-	-	2	-	-	1	-	2	1	-	-	-	-	1	1	1	1	1	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	3	1	-	-	-	-	-	-	-	-	-	2	1	-	-	-	-
-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-



TABLE VII.—Continued.

Counties and Towns.	POPULATION—1860.			DEATHS.			Under 1.	1 to 2.	2 to 3.	3 to 4.
	Persons.	Sex.		Percent. to Pop.	Persons.	Sex.				
<i>Hampsh.</i> —Con.		Ma.								
Cummington, .	1,085	Fe.	536	2.08	22	18	2	—	1	—
			549			9	—	—	—	—
Easthampton, .	1,916	Ma.	912	3.65	70	32	6	5	2	2
		Fe.	1,004			38	10	1	—	—
Enfield, . . .	1,025	Ma.	482	2.78	28	12	4	—	—	—
		Fe.	543			16	1	—	—	—
Goshen, . . .	439	Ma.	223	2.05	9	4	—	1	—	—
		Fe.	216			5	1	1	—	—
Granby, . . .	907	Ma.	452	1.98	18	5	—	—	—	—
		Fe.	455			13	1	—	—	1
Greenwich, . .	699	Ma.	335	3.43	24	13	—	—	—	—
		Fe.	364			11	—	—	1	1
Hadley, . . .	2,104	Ma.	1,121	3.71	78	39	7	3	4	—
		Fe.	983			39	11	3	2	1
Hatfield, . . .	1,837	Ma.	736	1.87	25	8	1	—	2	—
		Fe.	601			17	3	—	—	—
Huntington, .	1,216	Ma.	596	1.64	20	8	2	—	1	—
		Fe.	620			11	2	3	—	1
		U.	.	.	.	1	—	—	—	—
Middlefield, .	748	Ma.	395	1.87	14	8	3	—	1	—
		Fe.	353			6	1	—	1	—
Northampton, .	6,788	Ma.	3,280	2.87	195	87	22	8	3	7
		Fe.	3,508			107	22	6	4	1
		U.	.	.	.	1	—	—	—	—
Pelham, . . .	748	Ma.	382	.94	7	2	—	—	—	—
		Fe.	366			5	—	—	—	—
Plainfield, . .	639	Ma.	332	1.10	7	4	—	—	—	—
		Fe.	307			3	1	—	1	—
Prescott, . . .	611	Ma.	295	1.47	9	7	—	—	—	—
		Fe.	316			2	—	—	—	—
South Hadley, .	2,277	Ma.	1,108	1.23	28	14	3	1	—	—
		Fe.	1,169			14	4	—	1	—
Southampton, .	1,130	Ma.	580	1.77	20	9	1	—	—	—
		Fe.	550			11	2	—	—	—

TABLE VII.—Continued.

4 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 to 75.	75 to 80.	80 to 85.	85 to 90.	90 to 95.	95 and over.	Unknown.
-	1	1	-	-	1	1	-	-	1	-	-	-	2	1	-	2	-	-	-	-
2	-	-	3	3	-	-	1	-	1	-	5	2	-	-	-	-	1	-	-	-
-	2	1	5	1	1	3	2	1	1	-	1	3	-	-	1	3	2	-	-	-
-	1	1	1	-	1	1	-	1	-	1	-	-	-	-	-	-	-	-	1	-
-	2	2	2	1	1	-	-	1	-	1	2	-	-	-	2	1	-	-	-	-
-	-	-	-	-	1	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-
-	1	-	-	1	-	-	-	-	-	-	-	-	2	1	-	-	-	-	-	-
-	3	-	-	1	1	1	-	-	-	1	-	2	-	1	-	1	-	-	-	-
-	-	3	1	-	1	-	-	-	1	-	-	1	-	2	4	-	-	-	-	-
-	-	-	2	-	-	1	-	-	-	-	2	1	1	-	1	-	1	-	-	-
3	2	-	3	1	1	1	-	4	1	-	-	1	4	1	1	1	1	-	-	-
1	1	1	2	1	1	-	4	-	2	3	-	-	2	3	-	-	-	-	1	-
-	1	1	-	1	-	3	1	-	-	-	-	1	-	-	-	-	-	-	-	-
-	1	-	1	-	2	-	1	-	1	1	-	-	1	2	-	-	1	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	1	-	-	-	1	1	-	-	1	-	-	1	-	-	-	-	2	-	2	-
-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-
-	-	-	1	-	-	-	-	1	-	1	-	-	-	-	-	1	-	-	-	-
1	4	2	-	4	6	2	10	1	3	1	4	2	-	-	-	1	4	-	-	2
1	6	2	4	3	3	2	11	4	4	1	3	3	3	6	2	7	-	-	9	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-
1	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	1	-	-	-	-	1	-	-	1	1	1	1	1	-	-	-	-
1	3	-	1	-	-	-	1	-	1	2	-	-	-	-	-	1	-	-	-	-
-	1	-	3	1	1	1	1	-	-	-	-	1	-	-	-	-	-	-	-	-
-	1	-	-	-	-	1	-	-	-	1	1	-	-	-	1	1	-	-	-	1
-	2	-	1	-	-	2	-	-	1	-	1	-	-	-	1	1	-	-	-	-

TABLE VII.—Continued.

Counties and Towns.	POPULATION—1860.			DEATHS.			Under 1.	1 to 2.	3 to 4.	5 to 6.
	Persons.	Sex.		Percent to Pop.	Persons.	Sex.				
<i>Hampsh.—Con.</i>		Ma.	1,629			34	10	2	1	—
Ware, . . .	3,597	Fe.	1,968	2.28	82	47	10	3	1	2
		U.	.	.	.	1	—	—	—	—
Westhampton, .	608	Ma.	297	.99	6	3	—	—	—	—
		Fe.	811			5	1	—	1	—
Williamsburg, .	2,095	Ma.	1,028	1.53	32	18	1	2	1	—
		Fe.	1,067			14	1	3	1	1
Worthington, .	1,041	Ma.	521	1.63	17	7	1	1	1	—
		Fe.	520			10	1	—	—	1
MIDDLESEX COUNTY, .	216,354	Per.	.	.	.	.	796	301	152	104
		Ma.	103,185	1.95	4,223	2,085	436	159	77	47
		Fe.	113,219			2,181	353	142	75	57
		U.	.	.	.	7	7	—	—	—
Acton, . . .	1,726	Ma.	884	1.91	33	11	—	2	—	1
		Fe.	842			22	—	—	—	—
Ashby, . . .	1,091	Ma.	532	2.66	29	11	1	1	2	1
		Fe.	559			17	1	—	—	—
		U.	.	.	.	1	1	—	—	—
Ashland, . .	1,554	Ma.	830	2.70	42	26	3	2	1	2
		Fe.	724			16	4	1	—	1
Bedford, . . .	843	Ma.	430	2.14	18	6	—	—	—	—
		Fe.	413			12	—	—	—	—
Belmont, . .	1,198	Ma.	637	1.67	20	5	1	—	—	—
		Fe.	561			15	2	2	—	—
Billerica, . .	1,776	Ma.	858	2.36	42	23	4	1	—	1
		Fe.	918			19	2	—	1	—
Boxborough, .	403	Ma.	215	1.24	5	2	—	1	—	—
		Fe.	188			3	—	—	1	—
Brighton, . .	3,375	Ma.	1,678	1.78	60	31	7	—	2	2
		Fe.	1,697			29	6	5	—	—
Burlington, . .	606	Ma.	319	2.15	13	4	—	—	—	—
		Fe.	287			9	—	1	—	—
Cambridge, . .	26,060	Ma.	12,481	2.12	552	301	79	26	13	5
		Fe.	13,579			248	44	28	11	7
		U.	.	.	.	3	3	—	—	—

**TABLE VII.—Continued.**

	4 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 to 75.	75 to 80.	80 to 85.	85 to 90.	90 to 95.	95 and over.	Unknown.
-	2	1	-	2	1	2	1	2	1	-	3	2	1	3	-	2	-	1	-	-	-
2	2	-	-	2	5	4	-	-	1	2	3	1	2	2	1	-	2	1	-	-	-
-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
-	1	-	-	-	-	1	4	8	-	1	1	1	-	1	-	-	-	-	1	-	-
-	1	-	-	1	-	-	-	-	-	2	1	-	1	-	1	1	-	-	-	-	-
-	-	-	-	-	-	-	2	-	-	-	-	1	-	-	-	-	1	-	-	-	-
-	-	-	-	-	-	2	1	1	-	1	-	-	1	-	1	1	-	-	-	-	-
71	222	96	179	231	218	183	197	151	131	132	148	160	179	157	162	136	71	22	530	-	-
81	125	57	79	100	88	89	101	86	86	66	71	67	87	67	69	51	31	8	-	-	-
40	97	39	100	131	130	94	96	65	45	66	77	93	92	90	93	79	40	14	5	18	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	2	-	-	-	-	-	2	-	-	-	-	-	1	-	-	1	2	-	-	-	-
1	1	-	-	1	2	2	5	-	-	-	-	-	3	-	1	2	4	1	-	-	-
1	-	-	-	-	-	1	-	-	-	-	-	-	1	-	1	1	1	-	-	-	-
-	1	-	1	2	-	-	-	-	1	-	1	1	3	1	3	2	1	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	2	1	-	1	2	2	8	1	-	-	-	1	2	1	-	-	-	-	-	-	-
-	-	-	1	1	2	1	1	-	1	1	-	1	-	-	-	1	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	-	2	-	-	-	-
-	-	-	-	1	-	2	-	-	-	-	1	1	1	-	2	1	2	-	-	-	-
-	1	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-
-	2	-	1	-	1	2	2	1	1	-	1	1	1	1	1	-	-	-	-	-	-
-	1	-	-	2	2	2	1	2	-	-	-	-	-	2	3	1	1	1	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	1	-	4	1	-	1	1	1	1	1	2	1	1	1	2	2	-	-	-	-	-
1	-	1	4	1	2	1	-	-	1	1	-	-	2	2	-	1	1	-	-	-	-
-	-	1	-	-	-	-	1	-	-	-	1	1	1	-	-	2	-	-	-	-	-
8	23	9	9	15	10	9	11	11	19	9	15	9	7	5	8	4	1	1	-	-	-
9	11	5	10	15	12	10	11	8	5	5	10	8	14	7	8	5	5	5	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE VII.—Continued.

Counties and Towns.	POPULATION—1860.			DEATHS.			Under 1.	1 to 2.	2 to 3.	3 to 4.
	Persons.	Sex.		Per cent. to Pop.	Persons.	Sex.				
<i>Middlesex</i> —Con.		Ma.	805			4				
Carlisle, . . .	621	Fe.	816	2.09	13	9	—	—	—	—
							1	—	—	—
Charlestown, .	25,065	Ma.	12,327	2.13	535	264	65	23	10	7
		Fe.	12,738			271	56	23	13	11
Chelmsford, .	2,291	Ma.	1,101	1.40	32	20	4	1	2	—
		Fe.	1,190			12	—	—	2	—
Concord, . .	2,246	Ma.	1,080	1.78	40	21	1	—	—	—
		Fe.	1,166			19	3	1	—	—
Dracut, . . .	1,881	Ma.	952	1.75	33	13	3	1	—	1
		Fe.	929			20	1	—	—	—
Dunstable, . .	487	Ma.	243	2.26	11	6	—	—	—	—
		Fe.	244			5	1	—	—	—
Frammingham, .	4,227	Ma.	1,974	1.87	79	42	8	3	1	—
		Fe.	2,253			37	7	—	1	2
Groton, . . .	3,193	Ma.	1,603	1.94	62	28	6	—	—	—
		Fe.	1,590			34	5	1	1	—
Holliston, . .	3,339	Ma.	1,670	.87	29	15	1	1	1	1
		Fe.	1,669			14	1	—	—	—
Hopkinton, . .	4,340	Ma.	2,295	1.38	60	31	11	3	—	—
		Fe.	2,045			29	6	2	1	2
Lexington, . .	2,329	Ma.	1,163	2.66	62	30	2	6	1	—
		Fe.	1,166			32	3	1	1	2
Lincoln, . . .	718	Ma.	375	1.95	14	6	2	—	—	—
		Fe.	343			8	1	1	1	—
Littleton, . .	1,063	Ma.	531	2.16	23	9	4	—	—	—
		Fe.	532			14	1	—	—	—
Lowell, . . .	36,827	Ma.	14,652	1.57	577	273	47	26	16	4
		Fe.	22,175			304	51	21	13	13
Malden, . . .	5,365	Ma.	2,831	1.64	96	48	9	3	2	1
		Fe.	3,024			47	5	3	2	1
		U.	.			1	1	—	—	—
Marlborough, .	5,911	Ma.	3,076	1.83	108	48	6	4	1	2
		Fe.	2,835			60	16	5	1	—
Medford, . .	4,842	Ma.	2,336	1.55	75	28	6	1	—	1
		Fe.	2,506			47	7	1	3	2

TABLE VII.—Continued.

4 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 to 75.	75 to 80.	80 to 85.	85 to 90.	90 to 95.	95 and over.	Unknown.
-	-	-	1	-	-	-	-	1	-	-	1	2	-	-	1	1	-	-	-	-
5	7	8	10	11	10	16	18	13	13	1	13	5	8	8	4	8	2	-	-	4
7	9	4	10	12	15	8	8	8	4	12	10	5	15	10	9	11	5	1	-	5
1	4	1	-	-	-	1	-	2	-	1	-	-	2	-	1	-	-	-	-	-
-	2	-	1	-	-	1	-	1	-	-	-	-	2	-	-	2	-	1	-	-
-	3	-	2	-	-	-	2	-	-	-	-	-	5	1	3	2	1	1	-	-
-	-	1	-	-	-	2	-	1	-	-	1	2	1	2	1	4	-	-	-	-
-	1	-	-	-	-	-	-	1	1	-	-	-	1	-	2	-	1	1	-	-
-	2	-	1	3	2	1	3	-	-	1	1	-	1	-	2	1	-	-	-	1
-	-	-	-	1	-	-	-	-	-	-	-	-	-	3	1	-	-	1	-	-
-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	2	-	-	-	-	-
-	4	1	1	1	4	3	-	2	1	1	1	2	7	1	1	2	3	-	-	-
-	2	-	2	1	2	2	1	-	-	1	4	1	1	2	2	3	1	1	-	1
1	-	2	-	1	2	-	3	3	-	4	1	-	-	1	1	2	1	-	-	-
-	-	-	1	4	1	2	1	1	2	2	2	3	-	1	1	4	2	-	-	-
-	2	-	2	1	-	1	2	-	1	1	-	-	-	-	1	-	-	-	-	-
-	1	-	2	-	3	1	1	-	-	1	1	-	1	-	1	-	-	-	-	1
1	1	1	1	-	1	1	1	2	1	1	-	1	1	3	-	-	1	-	-	-
1	1	-	1	-	1	-	1	2	-	1	2	1	-	2	-	2	1	1	-	1
1	3	1	-	-	-	1	1	1	2	-	-	-	2	3	3	2	1	-	-	-
-	2	2	2	2	2	3	-	1	-	-	1	3	-	4	1	1	-	-	-	1
-	-	-	1	-	-	-	1	-	-	-	-	1	-	-	-	1	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	2	-	-	-
-	-	-	1	1	-	-	-	-	-	-	1	-	-	-	-	1	-	1	-	-
-	-	1	-	-	2	-	-	-	-	1	2	2	3	-	1	-	1	-	-	-
2	23	7	9	13	15	16	11	11	7	12	9	12	11	6	6	6	3	1	-	-
6	10	5	14	27	24	13	20	9	8	9	6	17	11	8	6	2	3	1	2	2
-	2	2	2	3	1	2	6	3	2	2	2	1	2	2	-	1	-	-	-	-
-	5	1	2	1	6	3	5	1	1	2	1	2	1	-	3	1	-	1	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	3	2	3	3	4	2	1	-	3	2	1	-	3	-	3	2	1	-	-	-
1	4	-	5	9	7	2	-	1	2	1	-	1	4	-	-	-	1	-	-	-
-	1	-	1	1	3	-	-	2	2	-	2	3	2	-	2	-	1	-	-	-
-	5	1	2	2	2	1	5	1	1	-	2	2	-	2	4	2	1	1	-	-

TABLE VII.—Continued.

Counties and Towns.	POPULATION—1860.		DEATHS.				Under 1.	1 to 2.	2 to 3.	3 to 4.
	Persons.	Sex.	Percent. to Pop.	Persons.	Sex.					
<i>Middlesex</i> —Con.		Ma.								
Melrose, . . .	2,532	Fe.	1,211	1.88	35	17	3	2	1	—
			1,321			18	1	3	1	—
Natick, . . .	5,515	Ma.	2,973	1.81	100	56	15	5	5	1
		Fe.	2,542			44	7	5	1	1
Newton, . . .	8,382	Ma.	3,899	1.49	125	52	12	1	1	2
		Fe.	4,483			73	8	6	4	1
North Reading,	1,203	Ma.	613	1.16	14	8	2	—	—	1
		Fe.	590			6	3	—	—	—
Pepperell, . .	1,895	Ma.	919	2.22	42	14	1	1	—	—
		Fe.	976			28	2	1	—	—
Reading, . .	2,662	Ma.	1,321	1.35	36	13	—	—	—	—
		Fe.	1,341			23	3	—	—	—
Sherborn, . .	1,129	Ma.	570	.97	11	5	1	—	—	—
		Fe.	559			6	—	—	—	—
Shirley, . . .	1,468	Ma.	732	1.84	27	12	1	3	—	—
		Fe.	736			15	3	1	1	—
Somerville, . .	8,025	Ma.	3,950	2.38	191	104	23	14	1	2
		Fe.	4,075			87	20	6	1	2
South Reading,	3,207	Ma.	1,577	1.81	58	31	7	2	—	—
		Fe.	1,630			27	3	2	2	2
Stoneham, . .	3,206	Ma.	1,693	2.81	90	44	2	2	2	1
		Fe.	1,513			46	7	1	6	3
Stow, . . . .	1,641	Ma.	813	.67	11	8	2	—	—	—
		Fe.	828			3	—	1	—	—
Sudbury, . .	1,691	Ma.	825	1.66	28	12	1	2	—	—
		Fe.	866			16	2	—	—	—
Tewksbury, . .	1,744	Ma.	913	1.03	18	11	4	—	—	—
		Fe.	831			7	—	—	—	—
St. Almshouse, at Tewksbury,	—	Ma.	—	—	195	108	36	2	3	1
		Fe.	—			87	19	2	1	—
Townsend, . .	2,005	Ma.	987	2.49	50	20	4	1	—	—
		Fe.	1,018			30	3	1	—	—
Tyngsborough,	626	Ma.	311	1.92	12	5	1	—	—	—
		Fe.	315			7	—	—	—	—

TABLE VII.—Continued.

4 to 4.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 to 75.	75 to 80.	80 to 85.	85 to 90.	90 to 95.	95 and over.	Unknown.
-	1	-	1	-	2	-	1	-	-	1	-	-	1	1	2	-	-	-	-	1
2	1	-	-	4	-	1	-	1	-	-	1	1	-	-	1	1	-	-	-	-
-	-	1	2	2	2	2	3	3	2	1	5	-	2	3	1	-	1	-	-	-
1	2	2	2	1	4	2	3	3	1	2	-	1	-	3	1	-	-	2	-	-
1	7	3	1	5	2	1	2	1	1	1	2	1	2	1	2	-	-	1	-	2
-	2	2	6	2	5	5	3	2	1	2	-	2	4	6	6	2	3	-	1	1
1	-	-	-	-	-	1	-	1	-	-	-	-	1	1	-	-	-	-	-	-
-	-	-	-	1	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-
-	-	-	1	1	1	1	2	1	1	1	2	1	1	1	1	-	-	-	-	-
-	2	-	1	1	2	1	1	1	-	-	1	2	3	-	2	5	1	-	-	2
-	1	-	2	-	1	-	1	-	1	1	-	-	3	1	1	-	1	-	-	-
-	1	-	1	1	2	-	-	1	1	1	-	1	4	2	4	1	-	-	-	-
-	-	-	-	-	-	-	-	1	1	-	-	-	1	-	-	1	-	-	-	-
-	-	1	-	-	1	-	1	-	-	-	1	-	-	1	1	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	2	1	1	1	1	-	-	2	-	-	1	-	-	-	-	-	-	-
-	-	1	1	1	1	1	1	-	-	1	-	1	-	-	2	-	-	-	-	-
1	4	3	8	5	3	5	4	3	2	4	4	3	5	2	4	1	-	-	-	3
2	7	3	4	5	1	3	5	2	1	1	4	5	4	4	2	3	1	-	-	1
-	1	2	1	2	1	2	3	-	2	2	1	-	1	-	3	1	-	-	-	-
-	2	-	3	-	1	1	-	1	1	-	4	1	2	1	-	1	-	-	-	-
5	7	2	2	2	5	3	3	1	2	1	2	2	-	-	-	-	-	-	-	-
1	4	-	2	1	1	5	2	-	1	2	1	3	1	-	1	1	2	-	-	1
-	1	-	-	-	1	-	-	2	-	-	1	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
-	1	-	-	2	-	-	-	-	-	-	1	1	-	-	1	1	2	-	-	-
1	2	-	1	-	-	-	-	2	-	-	-	2	1	1	2	-	1	-	1	-
-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	1	2	2	-	-	-
-	1	-	-	1	-	-	1	-	-	-	-	1	1	-	2	-	-	-	-	-
-	3	2	2	5	4	3	4	7	8	7	1	6	2	7	4	1	-	-	-	-
-	1	-	3	7	7	4	4	2	4	8	5	4	1	6	2	2	-	-	-	-
-	-	1	1	2	-	1	-	1	-	1	-	1	1	2	3	-	1	-	-	-
1	2	3	1	3	1	-	1	-	-	-	1	1	-	2	6	3	1	-	-	-
-	-	-	2	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-
-	-	-	-	-	1	1	-	-	1	-	-	-	1	-	-	2	-	-	-	1



TABLE VII.—Continued.

Counties and Towns.	POPULATION—1860.			DEATHS.			Under 1.	1 to 2.	2 to 3.	3 to 4.
	Persons.	Sex.		Per cent. to Pop.	Persons.	Sex.				
<i>Middlesex</i> —Con.		Ma.	2,981			70	21	8	4	4
Waltham, . .	6,397	Fe.	3,416	2·30	147	75	17	6	1	1
		U.	..	.	.	2	2	—	—	—
Watertown, .	3,270	Ma.	1,554	1·56	51	20	4	1	—	2
		Fe.	1,716			31	5	—	1	1
Wayland, . .	1,188	Ma.	595	1·63	20	14	5	—	1	—
		Fe.	593			6	1	—	—	—
W. Cambridge,	2,681	Ma.	1,344	2·65	71	34	7	3	1	1
		Fe.	1,337			87	4	2	2	3
Westford, . .	1,624	Ma.	839	1·97	32	18	1	—	1	—
		Fe.	785			14	2	—	—	—
Weston, . . .	1,243	Ma.	650	1·29	16	5	1	—	—	—
		Fe.	593			11	1	—	—	—
Wilmington, .	919	Ma.	451	2·72	25	14	—	—	1	—
		Fe.	468			11	1	—	1	—
Winchester, .	1,937	Ma.	954	·77	15	9	2	2	2	1
		Fe.	983			6	2	2	—	—
Woburn, . .	6,287	Ma.	3,082	2·23	140	75	15	5	2	2
		Fe.	3,205			65	12	7	1	2
NANTUCKET {	6,094	Per.	.	.	.	.	9	7	2	3
COUNTY, . {		Ma.	2,792	2·18	133	54	5	3	2	—
		Fe.	3,302			79	4	4	—	3
NORFOLK {	109,950	Per.	.	.	.	.	413	186	81	56
COUNTY, . {		Ma.	52,790	2·02	2,222	1,073	214	80	35	34
		Fe.	57,160			1,144	194	106	46	22
		U.	.	.	.	5	5	—	—	—
Bellingham, .	1,313	Ma.	652	1·83	24	12	—	2	1	2
		Fe.	661			12	—	3	1	—
Braintree, . .	3,468	Ma.	1,731	2·39	83	38	9	2	—	2
		Fe.	1,737			45	8	5	3	1
Brookline, . .	5,164	Ma.	2,385	1·65	85	44	9	6	—	3
		Fe.	2,779			41	11	3	1	1
Canton, . . .	3,242	Ma.	1,562	1·67	54	25	5	2	—	—
		Fe.	1,680			29	2	2	1	—

TABLE VII.—Continued.

4 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 to 75.	75 to 80.	80 to 85.	85 to 90.	90 to 95.	95 and over.	Unknown.
1	2	3	1	7	4	1	1	2	3	1	-	4	1	1	-	-	1	-	-	-
3	5	2	1	5	4	1	3	2	2	1	-	1	3	6	8	-	2	-	1	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	1	1	-	1	-	-	1	2	1	2	-	-	-	-	1	1	2	-	-	-
-	1	-	1	4	1	2	-	2	-	2	2	1	-	2	2	2	2	-	-	-
-	1	-	-	1	-	-	-	-	-	-	1	-	1	1	1	1	1	-	-	-
-	-	1	-	-	-	-	-	1	-	1	-	1	-	1	-	-	-	-	-	-
-	4	2	1	2	1	1	2	2	3	1	1	-	1	-	-	-	1	-	-	-
-	2	1	-	3	2	2	4	3	3	-	-	1	-	2	1	1	-	1	-	-
-	1	-	1	2	-	1	2	1	-	-	1	-	1	1	-	4	-	-	1	-
-	-	-	1	2	1	3	-	1	-	-	1	1	-	1	-	1	-	-	-	-
-	-	-	-	1	1	-	-	-	-	-	-	1	1	-	-	1	-	-	-	-
-	-	-	-	1	1	-	-	-	-	1	-	1	1	-	1	2	1	1	-	-
1	3	-	-	-	-	4	1	-	-	-	1	1	-	-	1	1	-	-	-	-
-	-	1	-	-	-	1	-	-	-	-	2	1	1	1	-	-	1	1	-	-
-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-
-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-
1	3	2	3	6	3	3	4	4	5	2	1	3	2	4	2	2	-	-	-	1
2	3	1	2	4	5	3	3	3	2	4	3	-	2	3	2	1	-	-	-	-
9	21	13	5	6	5	2	4	2	1	5	1	2	4	11	3	11	4	1	2	-
3	9	4	3	4	2	2	2	1	1	1	-	1	1	4	1	5	-	-	-	-
6	12	9	2	2	3	-	2	1	-	4	1	1	3	7	2	6	4	1	2	-
42	123	56	98	125	108	94	79	61	71	68	70	86	92	70	83	64	55	17	6	18
19	64	23	45	58	58	36	39	33	38	29	37	48	57	38	27	24	24	3	1	9
23	59	83	53	67	50	58	40	28	33	39	33	38	35	32	56	40	31	14	5	9
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	1	-	-	-	-	-	-	-	2	1	-	3	-	-	-	-	-
1	-	2	2	-	-	-	-	-	-	1	-	1	-	1	-	-	-	-	-	-
1	-	-	2	3	6	-	2	2	1	1	1	1	2	1	-	-	2	-	-	-
1	1	1	5	2	3	1	-	-	1	2	-	1	2	1	4	1	2	-	-	-
1	3	-	2	4	2	2	1	-	2	-	-	2	4	1	1	-	1	-	-	-
-	4	-	1	2	3	1	2	1	-	3	-	4	-	1	1	1	-	1	-	-
-	-	2	-	2	1	1	2	2	2	-	-	-	2	2	-	1	1	-	-	-
2	3	1	1	2	2	1	2	1	-	2	-	1	1	1	-	2	1	-	1	-

TABLE VII.—Continued.

Counties and Towns.	POPULATION—1860.			DEATHS.			Under 1	1 to 2	2 to 3	3 to 4
	Persons.	Sex.		Percent to Pop.	Persons.	Sex.				
Norfolk—Con.		Ma.	989			18				
Cohasset, . .	1,953	Fe.	1,014	1.79	35	17	5	1	—	—
							8	1	—	1
Dedham, . .	6,330	Ma.	3,105	2.42	153	78	10	6	8	1
		Fe.	3,225			75	9	10	2	1
Dorchester, . .	9,769	Ma.	4,466	1.93	189	88	24	2	1	—
		Fe.	5,303			99	20	9	2	1
		U.	.	.	.	2	2	—	—	—
Dover, . . .	679	Ma.	340	1.33	9	6	—	—	—	2
		Fe.	339			3	—	—	—	—
Foxborough, .	2,879	Ma.	1,301	1.56	45	21	2	—	—	—
		Fe.	1,578			24	5	—	—	—
Franklin, . .	2,172	Ma.	1,024	2.44	53	22	2	4	—	2
		Fe.	1,148			30	4	—	2	—
		U.	.	.	.	1	1	—	—	—
Medfield, . .	1,082	Ma.	490	1.94	21	11	1	—	—	—
		Fe.	592			10	1	—	—	—
Medway, . .	3,195	Ma.	1,555	1.63	52	20	3	2	—	1
		Fe.	1,640			32	3	—	1	1
Milton, . . .	2,669	Ma.	1,269	1.99	53	21	4	—	1	1
		Fe.	1,400			32	5	2	1	1
Needham, . .	2,658	Ma.	1,333	2.26	60	28	6	2	3	1
		Fe.	1,325			32	3	3	—	1
Quincy, . . .	6,778	Ma.	3,349	1.99	135	74	10	4	3	2
		Fe.	3,429			61	7	—	4	—
Randolph, . .	5,760	Ma.	2,880	1.96	113	59	10	5	—	2
		Fe.	2,880			54	9	4	1	—
Roxbury, . .	25,137	Ma.	11,818	2.46	619	293	80	32	12	8
		Fe.	13,319			324	72	42	23	6
		U.	.	.	.	2	2	—	—	—
Sharon, . . .	1,377	Ma.	680	1.67	23	11	2	—	—	—
		Fe.	697			12	1	3	—	—
Stoughton, . .	4,830	Ma.	2,502	1.57	76	38	9	—	1	2
		Fe.	2,328			38	3	3	1	2
Walpole, . .	2,037	Ma.	1,004	1.67	34	16	2	—	—	—
		Fe.	1,033			18	1	2	—	—

TABLE VII.—Continued.

4 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 to 75.	75 to 80.	80 to 85.	85 to 90.	90 to 95.	95 and over.	Unknown.
1	2	-	-	-	-	-	-	-	-	-	1	2	1	2	-	1	1	-	-	1
-	2	-	1	2	1	-	-	1	-	1	1	1	1	-	1	-	-	-	-	-
-	3	-	9	8	8	4	4	3	-	1	4	3	3	2	-	-	1	-	-	-
3	3	2	1	3	2	5	2	1	2	4	2	4	4	3	3	5	4	-	-	-
1	6	-	5	6	4	3	4	2	5	2	3	6	5	4	1	3	-	-	1	-
1	6	2	3	4	6	6	-	3	3	5	2	4	2	3	6	4	4	2	1	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	1	-	-	1	1	-	-	1	-	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	1	1	3	1	-	-	-	-	-	1	2	4	1	1	-	3	1	-	-	-
-	-	-	-	2	2	2	2	-	1	1	3	1	-	1	3	-	1	-	-	-
-	2	-	-	3	-	-	2	-	-	-	-	-	1	2	2	1	1	-	-	-
-	3	-	3	2	1	4	1	1	1	-	1	1	2	2	1	-	-	1	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-	1	-	4	2	1	1	-	-	-	-
-	-	-	-	-	-	1	-	1	-	-	1	-	1	1	1	1	1	1	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2	1	1	-	-	-
-	3	1	3	3	2	4	-	-	1	-	2	-	-	-	4	1	2	-	1	-
-	1	1	1	-	-	1	1	1	1	-	1	-	2	1	3	1	-	-	-	-
-	-	1	1	1	2	4	1	-	-	2	1	2	1	3	-	4	-	-	-	-
-	1	1	1	1	2	1	1	1	1	-	-	2	1	-	1	2	-	-	-	-
1	3	1	4	2	2	-	1	-	2	-	-	1	3	-	3	-	1	1	-	-
1	1	2	2	5	5	4	3	3	9	4	4	2	5	1	1	1	1	1	-	-
-	4	4	3	4	2	4	3	5	1	1	1	1	1	2	6	3	3	1	-	1
1	4	1	7	3	2	4	-	1	1	3	1	3	1	3	2	-	3	1	-	1
1	1	3	1	7	3	3	1	2	4	-	3	1	2	1	3	3	-	-	-	1
9	27	8	8	5	14	8	5	11	7	12	10	12	8	3	5	6	3	-	-	-
10	21	7	13	14	14	9	14	7	8	7	9	11	8	3	11	5	7	2	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	2	-	-	-	-	1	-	-	-	1	3	1	1	-	-	-	-
-	-	-	-	-	1	1	2	-	-	-	-	1	-	2	-	1	-	-	-	-
1	1	1	1	4	5	1	4	-	-	1	1	-	1	2	-	-	2	1	-	-
-	2	2	-	8	1	2	-	1	3	2	-	1	2	2	1	-	-	1	1	-
-	-	-	-	-	-	2	1	-	1	-	2	-	2	1	-	1	2	-	-	2
-	-	1	-	1	-	1	1	1	-	2	-	-	-	-	2	2	-	2	1	1

TABLE VII.—Continued.

Counties and Towns.	POPULATION—1860.		DEATHS.				Under 1.	1 to 2.	2 to 3.	3 to 4.
	Persons.	Sex.	Percent. to Pop.	Persons.	Sex.					
Norfolk—Con.										
West Roxbury,	6,310	Ma. 2,886 Fe. 3,474	1.66	105	53 52	7 8	4 7	2 1	2 1	
Weymouth, . .	7,742	Ma. 3,989 Fe. 3,803	1.81	140	69 71	14 16	6 6	2 2	2 4	
Wrentham, . .	3,406	Ma. 1,680 Fe. 1,776	1.79	61	28 33	— 3	— 1	1 —	1 1	
PLYMOUTH COUNTY, . . .	64,768	Per. . .	2.15	1,390	717 672 1	224	99	43	35	
		Ma. 32,207				122	48	18	16	
		Fe. 32,561				101	51	25	19	
		U. . .				1	—	—	—	
Abington, . .	8,527	Ma. 4,408 Fe. 4,119	2.01	171	87 84	17 19	11 12	6 5	1 1	
Bridgewater, .	3,761	Ma. 1,837 Fe. 1,924	1.73	65	37 28	5 —	2 3	1 —	2 2	
St. Alms house, at Bridgewater,	—	Ma. — Fe. —	—	178	100 78	24 32	1 1	— —	1 3	
Carver, . . .	1,186	Ma. 595 Fe. 591	1.10	13	8 5	— —	— 1	— —	— —	
Duxbury, . .	2,597	Ma. 1,296 Fe. 1,301	1.69	44	26 18	2 2	2 —	— 1	1 1	
E. Bridgewater,	3,207	Ma. 1,620 Fe. 1,587	1.40	45	22 23	2 4	1 4	— 1	— —	
Halifax, . . .	766	Ma. 382 Fe. 384 U. . .	2.35	18	7 10 1	— — 1	— — —	— 1 —	— — —	
Hanover, . . .	1,565	Ma. 771 Fe. 794	2.56	40	19 21	3 1	2 1	— 1	1 2	
Hanson, . . .	1,245	Ma. 625 Fe. 620	2.17	27	15 12	2 2	— —	— —	— —	
Hingham, . .	4,351	Ma. 2,057 Fe. 2,294	2.25	98	50 48	11 7	6 5	1 4	1 2	
Hull, . . .	285	Ma. 145 Fe. 140	.70	2	2 —	— —	1 —	— —	— —	
Kingston, . .	1,655	Ma. 786 Fe. 869	1.69	28	17 11	3 2	1 1	— —	— —	

TABLE VII.—Continued.

	4 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 to 75.	75 to 80.	80 to 85.	85 to 90.	90 to 95.	95 and over.	Unknown.
	3	6	3	1	1	1	-	3	2	1	1	2	4	2	3	3	1	1	-	-	-
	1	2	2	2	2	1	5	3	1	4	1	-	-	3	1	2	2	2	1	-	
	-	4	2	2	3	5	4	5	2	5	-	2	2	3	2	-	-	2	-	2	
	2	-	2	5	5	1	3	3	1	2	3	5	-	1	1	1	2	2	-	4	
	-	1	1	1	2	1	-	-	1	-	3	2	-	4	2	2	1	2	-	3	
	1	1	1	3	1	1	1	2	1	-	2	2	2	1	3	3	1	1	1	1	
26	58	42	56	76	79	52	48	41	40	34	59	62	71	70	72	54	34	7	1	7	
14	29	24	23	44	42	28	24	24	19	20	30	30	48	35	42	21	15	1	1	4	
12	29	18	33	32	37	24	24	17	21	14	29	32	28	35	30	33	19	6	-	3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2	2	3	3	5	6	6	5	2	3	2	3	1	5	6	2	3	2	1	-	1	
2	4	3	2	6	6	3	2	1	3	-	1	1	5	1	2	4	1	1	-	-	
1	1	2	2	-	-	-	-	2	1	2	2	-	-	2	3	1	5	-	-	-	
1	2	2	1	-	-	-	2	2	1	2	1	2	2	3	-	1	1	-	-	-	
1	4	1	2	10	5	3	2	5	4	7	6	7	5	3	6	-	2	-	1	-	
-	1	-	3	4	4	4	3	4	3	1	-	-	2	2	6	2	3	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	1	2	2	2	-	-	-	-	-	-	2	-	-	1	-	-	-	-	
-	-	-	-	-	1	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	
-	2	-	-	2	-	-	8	2	2	1	-	-	-	1	3	1	-	2	-	-	
-	-	1	-	2	2	1	-	-	1	-	-	-	2	2	2	-	1	1	-	-	
2	-	2	-	-	-	1	1	2	2	1	-	-	1	2	3	1	1	-	-	-	
-	2	1	3	-	-	-	1	-	1	1	-	1	2	-	-	2	-	-	-	-	
1	-	1	-	-	1	-	-	2	-	-	-	-	1	-	-	1	-	-	-	-	
-	-	-	-	2	2	-	-	-	-	-	1	1	-	-	-	-	2	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	1	1	1	2	1	1	-	1	-	-	-	-	3	-	-	2	1	1	-	-	
-	-	2	-	-	-	2	-	-	-	-	2	2	1	-	1	-	-	1	-	-	
-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	
1	3	2	1	3	3	2	2	-	-	2	2	-	2	-	4	5	3	1	-	1	
-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1	1	-	-	-	1	1	1	1	-	1	-	-	1	-	1	1	3	-	-	-	
-	-	-	-	-	1	2	-	1	-	-	-	-	-	-	2	2	-	-	-	-	

TABLE VII.—Continued.

Counties and Towns.	POPULATION—1860.			DEATHS.			Under 1.	1 to 2.	2 to 3.	3 to 4.
	Persons.	Sex.		Per cent. to Pop.	Persons.	Sex.				
<i>Plymouth—Con.</i>		Ma.								
<i>Lakeville, . .</i>	1,160	Fe.	583	1·81	21	9	1	—	1	—
			577			12	2	—	1	—
<i>Marion, . . .</i>	918	Ma.	435	2·18	20	11	1	—	—	—
		Fe.	483			9	—	—	—	—
<i>Marshfield, . .</i>	1,870	Ma.	913	1·76	33	15	1	1	—	1
		Fe.	957			18	1	—	—	—
<i>Mattapoisett, .</i>	1,433	Ma.	717	2·70	40	19	2	1	1	—
		Fe.	766			21	—	3	1	—
<i>Middleborough,</i>	4,553	Ma.	2,260	1·76	80	39	7	1	2	—
		Fe.	2,293			41	4	—	—	—
<i>N. Bridgewater,</i>	6,584	Ma.	3,385	1·88	124	70	15	6	2	3
		Fe.	3,199			54	9	6	—	3
<i>Pembroke, . .</i>	1,524	Ma.	770	2·49	38	16	—	2	1	2
		Fe.	754			22	—	3	1	2
<i>Plymouth, . .</i>	6,272	Ma.	2,928	2·26	142	76	16	7	1	1
		Fe.	3,274			66	8	6	4	2
<i>Plympton, . .</i>	994	Ma.	504	1·81	18	9	1	1	—	—
		Fe.	490			9	1	1	—	—
<i>Rochester, . .</i>	1,232	Ma.	624	·57	7	3	1	—	—	—
		Fe.	608			4	—	—	—	—
<i>Scituate, . . .</i>	2,227	Ma.	1,096	1·39	31	18	5	1	1	1
		Fe.	1,131			13	2	1	2	—
<i>South Scituate,</i>	1,774	Ma.	876	1·18	21	8	—	—	—	—
		Fe.	898			13	—	1	—	—
<i>Wareham, . .</i>	3,186	Ma.	1,610	1·82	58	22	2	1	1	—
		Fe.	1,576			36	3	2	2	1
<i>W. Bridgewater,</i>	1,846	Ma.	913	1·52	28	12	1	—	—	1
		Fe.	933			16	2	—	1	—
<i>SUFFOLK COUNTY, .</i>	192,700	Per.	.	.	.	.	1112	405	246	119
		Ma.	92,141	2·52	4,856	2,481	575	216	124	61
		Fe.	100,559			2,373	585	189	122	58
		U.	.	.	.	2	2	—	—	—
<i>Boston, . . .</i>	177,840	Ma.	85,620	2·55	4,541	2,335	548	201	118	55
		Fe.	92,634			2,206	503	171	112	53

TABLE VII.—Continued.

4 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 to 75.	75 to 80.	80 to 85.	85 to 90.	90 to 95.	95 and over.	Unknown.
-	-	-	1	-	-	-	-	-	-	-	1	2	3	-	-	-	-	-	-	-
-	-	-	1	2	1	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-
-	-	1	1	4	1	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-	1	-	-	1	3	1	-	1	-	1
-	3	-	1	1	1	1	1	1	-	-	1	-	1	-	1	-	1	-	-	-
1	2	-	1	2	-	1	2	-	-	-	2	3	-	-	-	2	-	1	-	-
-	-	-	-	-	3	-	3	2	-	-	1	1	2	1	2	-	-	-	-	-
-	-	1	-	-	-	1	-	1	-	2	3	1	1	2	1	2	2	-	-	-
1	2	-	-	1	3	2	-	1	-	4	-	2	5	3	3	3	2	-	-	-
-	-	1	3	1	3	1	4	1	1	-	4	3	4	5	3	2	-	1	-	-
1	3	2	4	6	7	2	1	1	-	2	3	1	3	2	5	-	-	-	-	1
3	2	3	2	2	4	3	2	1	1	1	3	2	1	3	1	-	1	1	-	-
1	1	1	1	-	-	-	1	1	-	-	1	1	1	1	1	-	-	-	-	-
-	1	-	1	2	-	-	-	-	1	2	1	-	1	1	2	3	1	-	-	-
1	-	3	1	5	2	2	2	2	3	2	5	5	5	1	7	1	3	-	-	1
2	4	2	4	3	4	2	2	2	1	2	2	1	3	5	2	1	3	-	-	1
-	1	1	2	-	1	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-
-	2	1	-	-	-	-	-	1	-	-	-	1	-	-	-	2	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	1	1	-	-	-
1	-	1	-	-	2	-	1	1	-	-	-	-	1	2	-	-	-	1	-	-
-	-	1	-	-	1	-	-	1	1	1	1	-	2	-	-	-	-	-	-	-
1	1	2	-	-	-	-	-	-	-	-	-	2	-	1	-	1	-	-	-	-
-	2	-	-	2	-	1	-	-	-	1	1	1	1	-	1	1	1	-	-	-
-	1	1	-	-	1	4	1	2	1	-	2	-	2	3	-	-	-	-	-	-
1	3	1	4	2	5	-	2	1	1	1	2	-	1	1	1	-	2	-	-	-
-	1	1	-	-	1	-	-	-	-	1	2	-	1	1	-	1	1	-	-	-
-	1	1	1	-	1	-	2	-	2	-	-	-	2	1	1	1	-	-	-	-
98	198	80	184	310	279	260	242	203	192	153	151	150	134	115	93	81	35	14	2	-
53	96	42	98	161	120	136	135	117	108	89	91	76	63	42	31	34	11	2	-	-
45	102	38	86	149	159	124	107	86	84	64	60	74	71	73	62	47	24	12	2	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
53	86	39	92	153	112	133	127	111	100	83	86	70	60	39	29	33	10	2	-	-
39	87	37	76	140	151	120	102	81	79	63	53	67	67	71	55	41	24	12	2	-



TABLE VII.—Continued.

Counties and Towns.	POPULATION—1860.		Percent. to Pop.	DEATHS.		Under 1.	1 to 2.	2 to 3.	3 to 4.
	Persons.	Sex.		Persons.	Sex.				
<i>Suffolk—Con.</i>									
Chelsea, . . .	18,395	Ma. 6,187 Fe. 7,528 U. .	2·23	299	188 159 2	81 31 2	15 18 —	5 10 —	5 5 —
North Chelsea, .	921	Ma. 490 Fe. 431	1·30	12	7 5	—	—	1	1
Winthrop, . .	544	Ma. 308 Fe. 236	·74	4	1 3	1	—	—	—
WORCESTER COUNTY, .	159659	Per. . Ma. 79,526 Fe. 80,133 U. .	2·16	3,453	1,734 1,711 8	625 342 275	300 161 139	148 80 68	106 48 58
Ashburnham, .	2,108	Ma. 1,045 Fe. 1,063	1·76	37	20 17	5 1	2 1	4 —	— 1
Athol, . . .	2,604	Ma. 1,304 Fe. 1,300	1·96	51	29 20	7 1	2 1	1 —	— —
Auburn, . . .	914	Ma. 451 Fe. 463	1·20	11	6 5	1 —	—	—	—
Barre, . . .	2,973	Ma. 1,426 Fe. 1,547	1·82	54	27 27	1 2	4 2	4 1	1 1
Berlin, . . .	1,106	Ma. 586 Fe. 520	1·90	21	13 8	— 2	—	— 1	1 —
Blackstone, . .	5,453	Ma. 2,611 Fe. 2,842	1·88	100	45 55	16 12	4 4	3 1	1 2
Bolton, . . .	1,348	Ma. 702 Fe. 646	3·26	44	23 21	4 2	1 1	1 1	— —
Boylston, . .	929	Ma. 462 Fe. 467	1·29	12	4 8	— 1	— 1	—	— 1
Brookfield, . .	2,276	Ma. 1,172 Fe. 1,104	1·98	45	24 21	2 3	—	1 1	— —
Charlton, . .	2,047	Ma. 1,034 Fe. 1,013	1·86	38	13 25	— 2	—	—	1 —
Clinton, . . .	3,859	Ma. 1,667 Fe. 2,192 U. .	2·10	81	44 36 1	7 3 1	3 4 —	5 3 —	4 2 —

TABLE VII.—Continued.

4 to 6.	6 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 to 75.	75 to 80.	80 to 85.	85 to 90.	90 to 95.	95 and over.	Unknown.
77	194	100	148	204	168	126	128	116	95	112	98	112	117	140	181	104	64	17	10	18
38	99	58	77	112	72	59	57	57	50	48	45	63	54	64	62	47	25	6	2	8
39	95	42	71	92	96	67	71	59	45	64	53	49	63	76	69	57	39	11	8	5
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	1	-	1	2	3	1	1	-	1	1	2	-	2	-	1	1	-	-	-	1
-	2	1	1	1	1	1	2	-	2	1	2	2	1	-	1	1	-	-	-	-
-	2	-	-	4	3	-	-	-	-	2	-	1	2	2	2	1	-	1	-	-
-	-	-	1	1	2	1	-	-	-	-	-	1	-	1	-	-	1	-	-	-
-	3	2	-	1	1	1	1	1	-	1	1	-	-	1	2	2	-	-	-	-
1	1	2	2	-	2	2	1	-	1	1	2	-	2	1	1	1	-	1	-	-
-	1	-	1	1	1	1	1	-	1	-	-	-	3	-	1	1	-	-	-	-
-	-	-	1	-	1	1	1	-	-	-	-	-	-	1	-	-	-	-	-	-
1	4	-	1	3	2	1	2	-	2	1	-	1	-	1	-	1	1	-	-	-
2	3	3	2	2	6	3	1	1	-	-	3	-	1	2	3	2	2	-	-	-
-	2	3	1	1	-	2	1	-	2	-	-	-	-	1	2	-	2	-	1	-
1	2	1	1	-	1	-	2	1	1	-	-	1	-	-	1	2	1	1	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	2	2	2	3	1	-	1	1	1	-	-	1	-	1	-	-	1	-	-	-
-	-	1	-	-	2	-	1	1	3	-	1	2	-	-	-	1	1	1	1	-
-	1	1	3	1	-	-	1	1	-	1	1	-	-	-	2	-	-	-	-	-
-	2	1	-	2	5	-	-	1	-	1	1	2	1	1	2	2	1	1	-	-
2	5	-	4	4	2	1	2	1	-	-	-	-	-	2	-	1	-	-	-	1
1	2	1	1	1	2	2	1	1	2	-	1	3	2	-	2	2	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE VII.—Continued.

Counties and Towns.	POPULATION—1860.			DEATHS.			Under 1.	1 to 2.	2 to 3.	3 to 4.
	Persons.	Sex.		Per cent. to Pop.	Persons.	Sex.				
Worcester—Con.		Ma.	448			3				
Dana, . . .	876	Fe.	433	.91	8	5	—	—	1	—
							1	—	—	—
Douglas, . . .	2,442	Ma.	1,241	2.25	55	25	8	2	3	3
		Fe.	1,201			30	5	4	1	2
Dudley, . . .	1,736	Ma.	860	3.69	64	30	6	4	—	1
		Fe.	876			33	9	4	—	1
		U.	.	.	.	1	1	—	—	—
Fitchburg, . .	7,305	Ma.	3,943	2.46	192	103	18	12	6	2
		Fe.	3,862			89	18	11	4	2
Gardner, . . .	2,646	Ma.	1,317	1.21	32	11	—	—	1	—
		Fe.	1,329			21	2	1	—	1
Grafton, . . .	4,317	Ma.	2,155	1.30	56	24	5	2	—	—
		Fe.	2,162			32	4	2	1	1
Hardwick, . .	1,521	Ma.	772	1.58	24	8	2	1	—	—
		Fe.	749			16	1	1	1	1
Harvard, . . .	1,507	Ma.	723	1.26	19	10	1	—	1	—
		Fe.	784			9	—	—	—	—
Holden, . . .	1,945	Ma.	984	1.70	33	23	5	1	—	—
		Fe.	961			10	—	—	—	1
Hubbardston, .	1,621	Ma.	855	1.73	28	11	1	1	—	—
		Fe.	766			15	1	—	—	—
		U.	.	.	.	2	2	—	—	—
Lancaster, . .	1,932	Ma.	850	1.55	30	11	—	1	—	—
		Fe.	1,082			19	—	—	—	1
Leicester, . .	2,748	Ma.	1,393	2.69	74	42	11	3	1	2
		Fe.	1,355			32	8	2	2	4
Leominster, . .	3,522	Ma.	1,824	1.79	63	23	2	3	—	—
		Fe.	1,698			40	1	2	—	1
Lunenburg, . .	1,212	Ma.	594	3.14	38	18	4	1	—	—
		Fe.	618			20	3	—	—	—
Mendon, . . .	1,351	Ma.	687	1.18	16	4	—	1	2	—
		Fe.	664			12	3	2	—	—
Milford, . . .	9,132	Ma.	4,702	2.41	220	118	32	16	6	5
		Fe.	4,430			102	25	11	4	2

TABLE VII.—Continued.

4 to 8.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 to 75.	75 to 80.	80 to 85.	85 to 90.	90 to 95.	95 and over.	Unknown.
-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	2	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
2	2	-	1	-	-	-	2	-	-	-	1	-	-	-	-	1	-	-	-	-
-	2	-	1	2	-	-	1	3	-	1	1	2	2	-	2	-	1	-	-	-
-	3	1	4	1	-	1	3	-	-	-	-	2	-	1	-	1	1	-	-	1
-	3	3	1	4	1	1	-	-	-	-	1	-	3	-	1	1	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	7	3	7	4	5	5	1	3	1	4	6	5	4	3	-	2	1	-	-	-
-	3	4	2	7	4	3	2	6	1	4	3	3	3	1	4	1	2	1	-	-
-	1	-	-	2	1	-	-	-	-	1	-	1	-	2	1	1	-	-	-	-
-	2	-	4	-	-	1	-	1	-	-	-	-	1	4	2	1	1	-	-	-
-	-	2	-	1	1	1	2	1	2	-	2	1	1	-	2	1	-	-	-	-
-	-	3	1	2	2	1	2	2	1	-	1	3	1	1	2	1	1	-	-	-
1	-	-	-	-	-	-	-	-	-	-	-	-	2	-	1	1	-	-	-	-
-	1	1	-	-	2	1	-	-	-	1	1	2	-	2	-	1	-	-	-	-
-	-	-	-	-	1	-	-	-	-	1	-	-	1	1	2	1	-	1	-	-
1	3	-	2	-	1	1	-	-	-	1	-	-	-	-	-	-	1	-	-	-
-	-	-	-	3	1	-	1	-	2	-	-	-	-	5	4	1	-	-	-	-
-	-	1	1	-	1	-	-	-	-	-	-	-	-	-	-	-	4	1	-	1
-	-	-	-	1	1	-	1	1	1	-	-	1	2	2	-	-	-	-	-	-
-	-	-	-	1	1	1	1	2	-	-	2	-	2	-	2	1	1	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	-	1	-	-	2	-	-	1	-	1	1	1	-	1	-	-	1	-	-	-
-	1	-	2	2	-	-	1	4	-	1	-	-	2	3	1	-	1	-	-	-
-	2	-	2	5	-	-	-	2	1	1	2	3	-	2	2	3	-	-	-	-
-	5	1	-	3	1	-	1	1	-	1	-	1	1	1	3	-	1	1	-	-
1	1	-	2	3	1	-	1	2	-	1	1	2	1	2	-	-	-	-	-	-
-	3	1	1	5	2	2	1	3	1	4	1	1	-	3	4	2	2	-	-	-
-	1	1	-	-	3	1	-	-	1	1	-	1	-	-	2	1	1	-	-	-
1	1	-	-	2	1	1	-	-	-	-	1	2	1	1	1	-	1	3	1	-
-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	1	2	-	-	2
3	7	6	4	6	5	5	5	5	3	1	1	1	3	3	-	1	-	-	-	-
4	12	-	3	3	6	2	3	1	2	5	2	3	1	6	2	2	2	-	1	-

TABLE VII.—Continued.

Counties and Towns.	POPULATION—1860.			DEATHS.			Under 1.	1 to 2.	3 to 4.	5 to 6.
	Persons.	Sex.	Per cent. to Pop.	Persons.	Sex.					
Worcester—Con. Millbury, . .	3,296	Ma. Fe.	1,593 1,703	2.49	82	37 45	9 16	4 4	2 1	1 1
New Braintree,	805	Ma. Fe. U.	411 394 .	1.49 . .	12 . .	6 5 1	— — 1	— — —	— — —	— — —
Northborough, .	1,565	Ma. Fe.	760 805	1.66	26	12 14	2 1	— —	2 —	2 —
Northbridge, .	2,633	Ma. Fe.	1,338 1,295	1.44	38	13 25	3 7	2 6	— 2	— 2
N. Brookfield, .	2,760	Ma. Fe. U.	1,390 1,370 .	3.08 . .	85 . .	36 48 1	6 5 1	7 4 —	1 2 —	1 — —
Oakham, . .	959	Ma. Fe.	473 486	1.36	18	8 5	— —	— —	1 —	— —
Oxford, . . .	3,034	Ma. Fe. U.	1,512 1,522 .	1.74 . .	53 . .	23 29 1	2 4 1	2 2 —	— 1 —	2 — —
Paxton, . . .	725	Ma. Fe.	370 355	2.21	16	8 8	— —	— 1	— —	— —
Petersham, . .	1,465	Ma. Fe.	711 754	1.50	22	13 9	2 1	— —	— —	— —
Phillipston, . .	764	Ma. Fe.	391 373	2.75	21	9 12	2 —	— 1	— —	— —
Princeton, . .	1,201	Ma. Fe.	608 593	2.58	31	12 19	2 1	1 —	— 1	1 1
Royalston, . .	1,486	Ma. Fe.	728 758	1.48	22	6 16	1 —	1 —	— 1	— —
Rutland, . .	1,076	Ma. Fe.	545 531	1.95	21	9 12	2 —	— —	— 1	— —
Shrewsbury, .	1,553	Ma. Fe.	735 773	2.31	36	19 17	— 4	— —	— —	1 —
Southborough, .	1,854	Ma. Fe.	934 920	2.48	46	22 24	6 5	— 3	4 1	— 1
Southbridge, .	3,575	Ma. Fe.	1,806 1,769	2.74	98	41 57	12 10	2 7	3 3	1 6

TABLE VII.—Continued.

4 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 to 75.	75 to 80.	80 to 85.	85 to 90.	90 to 95.	95 and over.	Unknown.
1	4	-	1	1	1	1	2	3	2	1	-	1	3	2	1	1	-	-	-	-
-	2	-	1	1	-	-	-	1	-	-	-	1	-	-	1	-	-	-	-	1
1	1	2	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-
1	1	1	2	-	1	1	-	1	1	-	2	1	-	2	-	2	-	-	-	-
-	1	-	-	-	1	1	-	1	-	1	1	-	1	-	1	-	-	-	-	-
2	2	1	1	2	2	2	1	1	3	3	1	1	1	1	4	2	1	1	-	-
-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-
-	-	-	-	1	-	-	1	1	1	1	-	-	-	1	-	-	1	-	-	-
-	-	-	-	-	-	-	1	1	-	1	-	-	2	-	1	-	-	-	-	-
1	1	1	2	3	2	1	1	2	2	1	2	1	1	1	-	1	1	1	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	3	1	-	1	-	-	1	1	-	-	-	-	1	1	-	-	-	-	-	-
-	-	1	1	-	-	-	-	-	-	-	1	-	-	1	1	1	-	-	-	-
-	-	1	-	-	2	1	-	1	-	-	-	1	-	2	4	1	-	-	-	-
-	-	-	-	-	1	-	-	-	-	1	-	-	1	-	-	-	1	-	-	-
-	-	-	-	-	1	1	1	-	1	1	-	1	2	-	2	1	1	-	1	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	-	-	-	-
1	2	-	3	-	1	3	-	-	1	-	1	-	2	-	2	-	1	1	-	-
-	-	-	-	1	-	-	-	2	-	-	-	1	-	-	-	-	-	-	-	-
1	2	1	2	1	-	-	1	2	1	1	1	1	-	1	-	-	-	-	-	-
2	-	1	-	1	-	-	-	-	-	-	1	-	-	1	1	-	-	-	-	-
-	1	-	-	-	-	-	-	1	-	-	-	-	-	4	1	1	3	-	-	-
-	-	-	-	1	2	1	-	-	3	-	2	1	2	2	2	-	1	1	-	-
-	-	-	-	-	-	-	-	1	4	-	2	-	2	-	-	2	-	-	-	-
1	2	-	-	1	-	-	1	2	1	1	-	-	1	1	1	1	-	-	-	-
-	3	-	-	2	3	2	2	2	2	1	-	2	-	2	1	-	-	-	-	-
1	4	3	5	3	3	3	3	1	1	1	1	-	-	3	1	-	-	-	-	1

TABLE VII.—Concluded.

Counties and Towns.	POPULATION—1860.			DEATHS.			Under 1.	1 to 2.	2 to 3.	3 to 4.
	Persons.	Sex.		Per cent. to Pop.	Persons.	Sex.				
Worcester—Con.										
Spencer, . . .	2,777	Ma. Fe.	1,480 1,297	2.16	60	33 27	3 5	6 2	— 3	— 2
Sterling, . . .	1,881	Ma. Fe.	954 927	1.65	31	13 18	2 1	— —	2 —	— —
Sturbridge, . .	2,291	Ma. Fe.	1,119 1,172	1.09	25	13 12	3 —	1 —	— —	— —
Sutton, . . .	2,676	Ma. Fe.	1,305 1,371	1.72	46	28 18	4 2	1 1	3 2	— 1
Templeton, . .	2,816	Ma. Fe.	1,433 1,383	1.49	42	24 18	2 3	— —	1 —	1 —
Upton, . . .	1,986	Ma. Fe.	995 991	2.06	41	20 21	1 1	2 —	1 —	— 1
Uxbridge, . . .	3,133	Ma. Fe.	1,592 1,541	1.60	50	20 30	2 5	2 3	— —	3 1
Warren, . . .	2,107	Ma. Fe.	1,051 1,056	1.85	39	22 17	5 1	4 2	1 —	1 1
Webster, . . .	2,912	Ma. Fe.	1,484 1,478	2.68	78	44 34	3 2	4 3	— 1	1 1
Westborough, .	2,913	Ma. Fe.	1,667 1,246	2.20	64	36 28	10 4	4 2	1 1	1 1
West Boylston,	2,509	Ma. Fe.	1,234 1,275	1.83	46	24 22	6 8	— —	— 1	— —
W. Brookfield,	1,548	Ma. Fe.	777 771	2.39	37	19 18	5 3	1 1	— 2	1 —
Westminster, .	1,840	Ma. Fe.	911 929	1.90	35	23 12	4 —	— 2	1 2	1 —
Winchendon, .	2,624	Ma. Fe. U.	1,289 1,335 .	1.64	43	24 18 1	5 2 1	— — —	— — —	— — —
Worcester, . .	24,960	Ma. Fe.	12,127 12,833	3.00	750	405 345	101 79	53 41	17 22	9 15

TABLE VII.—Concluded.

4 to 6.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 to 75.	75 to 80.	80 to 85.	85 to 90.	90 to 95.	95 and over.	Unknown.
-	4	1	1	1	2	-	1	1	2	3	-	2	1	2	1	1	-	-	-	1
1	1	1	3	1	1	2	-	-	-	2	-	-	-	1	-	2	-	-	-	-
-	-	-	-	2	-	-	2	-	-	-	-	-	-	-	1	2	1	-	-	1
-	1	-	-	1	1	1	1	1	2	-	1	-	1	1	2	3	1	-	-	-
-	3	-	-	1	-	-	-	1	-	-	-	-	1	1	1	-	-	-	1	-
1	1	1	1	1	1	1	1	1	-	1	1	2	-	-	-	-	-	-	-	-
-	-	1	-	1	-	1	2	-	-	2	1	-	-	2	1	4	3	2	-	-
-	-	1	-	-	1	-	1	1	-	-	2	3	-	1	1	1	-	-	-	-
2	-	-	1	2	3	1	1	1	3	2	1	-	2	-	-	1	-	-	-	-
-	-	-	-	3	-	-	1	1	1	2	1	2	1	1	2	-	-	-	-	-
-	2	-	-	-	-	1	-	-	-	1	1	3	1	-	2	5	-	-	-	-
1	-	-	4	-	-	1	2	1	1	1	1	-	1	1	1	3	1	-	-	-
-	3	-	1	4	2	1	-	-	-	-	-	-	-	-	-	1	1	-	-	-
-	2	-	1	1	3	1	-	1	-	4	1	-	1	2	2	2	-	-	-	-
-	1	-	1	2	2	-	-	-	-	1	1	1	-	-	-	1	1	-	-	-
2	-	-	-	2	-	-	-	2	1	-	3	-	1	1	-	-	1	-	-	-
1	5	3	3	6	1	3	-	2	2	2	2	1	2	-	3	-	-	-	-	-
1	3	3	2	5	-	-	1	2	2	-	1	3	2	1	-	-	1	-	-	-
1	1	5	1	3	3	2	-	-	-	-	-	-	1	-	1	-	-	2	-	-
1	3	-	1	2	-	3	2	1	-	-	-	-	-	3	1	2	-	-	1	-
1	-	1	3	1	-	-	1	1	-	1	2	2	-	1	2	2	-	-	-	-
-	-	1	2	1	2	-	-	1	2	-	-	-	2	1	-	-	1	-	-	-
-	-	-	-	-	2	-	-	1	-	2	-	2	1	1	-	3	-	-	-	-
1	3	1	-	1	2	-	-	-	-	1	-	-	2	1	-	-	-	-	-	-
1	2	1	1	-	2	2	-	2	-	-	2	4	-	-	-	-	-	-	-	-
-	1	-	-	-	1	1	-	-	-	-	-	1	-	1	1	2	-	-	-	-
-	1	-	4	2	2	1	1	-	-	1	-	-	2	2	2	1	-	-	-	-
-	1	-	1	2	2	2	2	1	-	1	-	1	-	1	2	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	15	14	18	30	13	20	17	16	7	8	6	12	14	8	7	6	3	-	1	-
13	14	4	10	13	21	16	24	9	11	15	8	4	7	7	6	4	2	-	-	-



TABLE VIII.—CAUSES OF DEATH.—ALPHABETICAL ARRANGEMENT.

*Distinguishing by Months, by Age and by Sex, the registered Number of Deaths from various specified causes, (alphabetically arranged,) during the year*

**1865.**

[Still-births not included.]

AGGREGATE.

SEX.	DEATHS.				MONTHS.												AGES.												
	Males.	Fem.	Unk.	Totals.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Unknown.												
Persons.	.	.	.	26,152	2008	2010	2229	2014	1855	1695	2194	2841	2878	2619	1979	1806	24	9239	1371	642	1128	2848	2161	1703	1667	1937	1885	1395	176
Males.	13,085	.	.	.	1025	976	1145	1039	934	874	1109	1419	1414	1279	901	868	12	4812	714	321	541	1370	1051	907	870	1018	847	545	89
Females.	.	13,024	.	.	980	1032	1080	973	921	818	1080	1418	1455	1236	986	937	8	4391	657	321	586	1478	1110	796	797	919	1038	850	81
Unknown.	.	.	43	.	3	2	4	2	-	3	5	4	9	4	2	1	4	36	-	-	1	-	-	-	-	-	-	-	6

TABLE VIII.—Continued.

SEX.	DEATHS.			MONTHS.												CAUSES OF DEATH.	AGES.																
	Males	Sex.		Total	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.		December.	Unknown.															
		Fem.	Unk.																														
Fem.,	.	1.	.	1	-	1	-	-	-	-	-	-	-	-	-	-	-	Abortion,	.	.	-	-	-	-	-	-	-	-	-	-	Under 5.		
Males,	27	.	.	48	3	1	4	6	1	2	-	3	4	-	1	2	-	Abcess,	.	.	8	2	1	1	3	5	4	4	4	-	15 to 20.		
Fem.,	.	21.	.	.	2	3	2	1	3	2	-	3	2	-	1	2	-	"	.	.	4	1	1	3	4	1	1	8	2	1	20 to 30.		
Males,	3	.	.	4	-	-	1	-	-	-	-	-	1	-	1	-	-	Abcess, Lumbar,	.	.	-	-	1	-	-	-	1	-	-	-	30 to 40.		
Fem.,	.	1.	.	.	-	-	-	-	-	-	-	-	-	-	-	-	-	"	.	.	-	-	-	-	-	-	-	-	-	-	40 to 50.		
Males,	21	.	.	68	3	4	1	-	1	1	3	4	1	1	1	2	-	Anaemia,	.	.	7	-	1	1	4	-	3	2	1	2	-	50 to 60.	
Fem.,	.	47.	.	.	3	4	1	3	3	6	3	4	9	6	1	4	-	"	.	.	8	1	-	5	12	7	7	6	-	1	-	60 to 70.	
Males,	6	.	.	7	-	1	1	-	-	-	-	1	-	1	-	3	-	Aneurism,	.	.	-	-	-	-	2	-	1	2	1	-	-	70 to 80.	
Fem.,	.	1.	.	.	-	-	-	-	-	-	-	-	-	-	-	-	-	"	.	.	-	-	-	-	-	-	-	-	-	-	-	Over 80.	
Males,	9	.	.	13	2	2	-	2	2	-	-	-	-	-	-	1	-	Angina Pectoris,	.	.	2	-	-	-	-	-	2	1	2	2	-	-	Under 5.
Fem.,	.	4.	.	.	-	-	1	-	-	1	-	-	-	2	-	-	-	"	.	.	-	1	-	-	-	-	-	-	1	1	-	15 to 20.	
Males,	187	.	.	263	4	11	10	17	12	10	10	12	17	17	8	9	-	Apoplexy,	.	.	2	-	-	3	4	11	11	22	42	82	10	-	20 to 30.
Fem.,	.	126.	.	.	8	15	6	10	13	7	11	7	9	18	15	7	-	"	.	.	1	1	-	1	2	11	4	26	25	40	14	1	30 to 40.
Males,	11	.	.	21	2	-	-	-	-	2	2	1	3	1	-	-	-	Ascites,	.	.	4	1	-	-	1	1	2	-	-	-	-	-	40 to 50.
Fem.,	.	10.	.	.	-	-	-	1	3	-	-	-	-	4	1	1	-	"	.	.	-	1	-	-	2	3	8	-	-	-	-	50 to 60.	

**TABLE VIII.—Continued.**

SEX.	DEATHS.			MONTHS.												CAUSES OF DEATH.	AGES.														
	SEX.			Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.		December.	Unknown.													
	Males.	Fem.	Unk.																												
Males,	81	.	.	58	1	3	5	2	-	4	1	1	2	1	4	7	-	Asthma,	.	Under 5.	1	-	-	-	-	6	12	4	2	1	Unknown.
Fem.,	.	27	.	.	2	2	4	4	-	2	1	2	-	4	1	5	-	"	.	5 to 14.	8	-	-	-	-	8	7	4	1	-	Over 85.
Males,	61	.	.	61	4	7	5	24	6	4	-	2	1	4	2	2	-	Battle, Killed in,	.	15 to 19.	-	-	-	-	7	2	-	-	-	-	
Males,	15	.	.	31	-	-	2	-	1	-	2	4	3	2	-	1	-	Bowels, Disease of,	.	20 to 24.	6	1	1	-	1	1	1	1	1	4	-
Fem.,	.	16	.	.	1	-	-	-	-	2	3	3	4	-	2	1	-	"	.	25 to 29.	7	2	-	-	1	1	-	-	-	-	-
Males,	128	.	.	282	10	9	16	10	13	8	10	13	13	8	12	6	-	Brain, Disease of,	.	30 to 34.	63	10	5	2	9	4	5	8	7	-	-
Fem.,	.	104	.	.	11	8	8	9	8	6	6	15	13	8	4	8	-	"	.	35 to 39.	53	8	8	5	8	1	5	6	5	-	-
Males,	80	.	.	43	4	1	2	4	2	5	3	-	3	3	1	2	-	Brain, Softening of,	.	40 to 44.	1	1	-	-	5	8	5	5	5	-	-
Fem.,	.	18	.	.	1	1	-	1	3	-	2	-	8	1	-	1	-	"	.	45 to 49.	-	-	-	-	2	1	2	2	3	1	-
Males,	87	.	.	179	10	4	13	9	7	4	6	3	4	4	12	11	-	Bronchitis,	.	50 to 54.	53	3	-	-	5	4	2	5	7	1	-
Fem.,	.	92	.	.	9	10	9	11	7	9	5	4	6	3	6	13	-	"	.	55 to 59.	53	2	3	1	5	2	4	4	8	2	1
Males,	40	.	.	97	7	-	3	6	-	-	9	3	4	4	2	6	-	Burns and Scalds,	.	60 to 64.	31	2	-	1	2	1	-	4	-	-	1
Fem.,	.	57	.	.	7	9	3	2	4	3	5	3	6	7	4	5	-	"	.	65 to 69.	27	8	3	2	4	1	1	1	1	4	2
Males,	5	.	.	8	1	-	-	-	-	-	1	-	2	-	1	-	-	Carbuncle,	.	70 to 74.	-	-	-	-	-	-	2	2	1	-	-
Fem.,	.	3	.	.	-	-	-	-	1	-	1	-	1	-	-	-	-	"	.	75 to 79.	-	-	-	-	-	-	1	-	-	-	-
Males,	227	.	.	270	19	13	12	17	12	21	19	27	28	19	24	21	-	Casualty,	.	80 to 84.	12	20	15	20	32	37	32	31	17	6	2
Fem.,	.	43	.	.	4	6	5	2	2	4	8	1	1	3	4	8	-	"	.	85 to 89.	9	5	4	2	2	4	2	5	4	6	-

[illegible]

TABLE VIII.—Continued.

SEX.	DEATHS.			MONTHS.												CAUSES OF DEATH.	AGES.																
	Sex.			Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.		December.	Unknown.															
	Males.	Fem.	Unk.																														
Males,	8	.	.	11	—	1	1	1	1	1	1	1	1	1	2	—	—	Cystitis,	Under 5.	—	—	—	—	—	—	—	—	—	—	—	Unknown.		
Fem.,	.	3	.	.	—	—	—	—	—	—	—	—	—	—	1	—	—	"	5 to 15.	—	—	—	—	—	—	—	—	—	—	—	Over 85.		
Males,	60	.	.	137	10	8	8	6	8	8	8	4	5	5	5	5	—	Debility,	15 to 25.	7	—	—	—	—	—	—	—	—	—	—	—		
Fem.,	.	77	.	.	5	6	5	1	9	6	7	7	9	6	6	10	—	"	25 to 35.	8	8	1	2	3	11	4	7	11	11	14	5	—	
Males,	23	.	.	26	2	2	2	2	—	1	3	2	4	2	1	2	—	Delirium Tremens,	35 to 45.	—	—	—	—	—	—	—	—	—	—	—	—	—	
Fem.,	.	3	.	.	—	—	—	1	—	—	—	—	—	1	—	—	—	"	45 to 55.	—	—	—	—	—	—	—	—	—	—	—	—		
Males,	301	.	.	464	20	13	20	12	15	11	44	44	53	41	15	11	2	Diarrhea,	55 to 65.	99	4	2	21	60	43	29	9	11	17	4	2	—	
Fem.,	.	163	.	.	4	7	2	5	8	3	29	27	38	25	15	5	—	"	65 to 75.	102	1	1	3	8	6	3	9	10	8	11	1	—	
Males,	37	.	.	52	4	5	5	2	1	6	1	1	—	1	4	7	—	Diabetes,	75 to 85.	—	—	1	4	2	5	3	6	4	6	3	8	—	
Fem.,	.	15	.	.	8	1	2	1	2	2	—	—	—	1	—	2	—	"	85 to 95.	—	—	—	1	1	5	—	3	2	1	1	—	—	
Males,	296	.	.	672	40	31	22	22	17	15	10	23	20	33	37	26	—	Diphtheria,	Under 5.	151	80	24	8	15	8	3	1	4	1	—	1	—	
Fem.,	.	374	.	.	42	30	36	85	84	30	21	23	20	39	32	32	—	"	5 to 15.	186	103	27	16	22	8	4	3	2	1	—	2	—	
Unk.,	.	.	2	.	—	—	1	—	—	—	—	—	—	1	—	—	—	"	15 to 25.	2	—	—	—	—	—	—	—	—	—	—	—	—	
Males,	211	.	.	492	23	26	19	14	27	15	15	17	14	13	17	11	—	Dropsy,	25 to 35.	23	14	4	12	12	6	18	81	30	37	22	2	—	—
Fem.,	.	281	.	.	28	22	21	29	22	20	19	34	25	18	25	18	—	"	35 to 45.	27	7	8	7	22	26	32	36	42	54	20	—	—	
Males,	151	.	.	175	3	4	4	11	14	32	23	27	12	5	4	12	—	Drowned,	45 to 55.	20	40	21	12	27	12	8	5	4	1	—	1	—	
Fem.,	.	24	.	.	—	—	1	5	8	8	6	2	3	—	1	—	—	"	55 to 65.	7	3	1	2	2	—	3	2	2	1	—	—	—	

1865.]

## CAUSES OF DEATH.

LXXXV

Males, Fem., Unk.,	764	783	1548	7	6	5	8	18	24	73	205	240	143	33	7	Dysentery, " " " "	455	85	21	14	25	29	28	28	38	35	9	2
Males, Fem., Unk.,	783	1		5	5	6	7	4	17	114	189	241	156	33	6	"	377	56	15	17	38	29	35	50	62	67	37	5
Males, Fem.,	10		21	-	-	-	-	-	-	-	-	-	1	-	-	Dyspepsia, " " " "	1	-	-	-	-	-	-	-	-	-	-	-
Males, Fem.,	109	11		-	1	1	3	1	1	2	1	2	-	1	2	Dyspepsia, " " " "	2	-	-	-	1	1	2	2	2	2	2	-
Males, Fem.,	133		242	8	6	5	13	8	6	11	18	12	9	15	8	Enteritis, " " " "	42	4	6	4	13	11	6	6	6	4	2	-
Males, Fem.,	24		41	10	8	9	10	9	12	13	21	13	8	11	9	Enteritis, " " " "	48	7	6	9	14	20	12	6	12	2	1	1
Males, Fem.,	17			1	2	5	2	1	2	3	1	1	1	2	3	Epilepsy, " " " "	1	1	-	6	8	8	-	3	4	1	-	-
Males, Fem.,	1		2	-	-	-	-	-	-	-	-	-	-	-	-	Epilepsy, " " " "	8	1	-	2	5	4	-	-	1	1	-	-
Males, Fem.,		1		-	-	-	-	-	-	-	-	-	-	-	-	Epilepsy, " " " "	1	-	-	-	-	-	-	-	-	-	-	-
Males, Fem.,	81	67	148	7	11	12	13	11	8	5	2	2	4	8	3	Erysipelas, " " " "	28	1	4	1	3	6	5	8	16	11	8	-
Males, Fem.,	2		2	8	6	11	5	4	5	4	3	3	8	8	7	Erysipelas, " " " "	18	2	1	1	7	6	6	8	7	7	4	-
Males, Fem.,	9		10	-	-	-	-	-	-	-	-	-	-	-	-	Exposure, " " " "	-	-	-	-	1	-	-	-	-	-	1	-
Males, Fem.,	10	1	18	1	2	-	-	-	-	-	2	1	2	-	-	Exposure, " " " "	1	-	-	-	2	1	3	-	1	-	-	1
Males, Fem.,	856		1694	87	41	53	46	46	42	67	69	108	169	117	60	Fever, Intermittent, " " " "	2	1	-	2	2	2	-	1	-	-	-	-
Males, Fem.,	838			35	25	35	44	42	22	41	78	131	166	139	80	Fever, Intermittent, " " " "	6	1	-	-	-	-	-	-	-	-	-	-
Males, Fem.,	36		65	8	5	6	8	3	2	3	3	-	3	3	2	Fever, Remittent, " " " "	71	64	53	182	186	118	72	53	60	28	10	7
Males, Fem.,		29		35	25	35	44	42	22	41	78	131	166	139	80	Fever, Remittent, " " " "	80	59	62	125	178	100	63	55	55	35	24	2
Males, Fem.,				3	5	6	8	3	2	3	3	-	3	3	2	Fever, Remittent, " " " "	1	5	2	2	3	-	2	5	7	7	2	-
Males, Fem.,				4	2	4	1	4	-	1	2	3	3	2	3	Fever, Remittent, " " " "	-	1	-	1	10	1	5	-	9	5	4	-

TABLE VIII.—Continued.

SEX.			DEATHS.		MONTHS.												CAUSES OF DEATH.	AGES.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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TABLE VIII.—Continued.

SEX.	DEATHS.			MONTHS.												AGES.										CAUSES OF DEATH.	
	SEX.			Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Unknown.										
	Males.	Fem.	Unk.																								
Males,	27	.	.	36	5	2	3	3	1	2	4	1	4	1	2	—	—	Intemperance,	1	4	3	5	7	0	1	—	
Fem.,	.	9	.	.	1	3	—	1	1	—	—	1	1	1	—	—	—	"	—	2	3	1	—	—	—	—	
Males,	1	.	.	8	—	—	1	—	—	—	—	—	—	—	1	—	—	Intussusception,	—	—	1	—	—	—	—	—	
Fem.,	.	2	.	.	—	—	—	—	—	—	—	—	—	—	—	—	—	"	—	—	—	1	—	—	—	—	
Males,	1	.	.	1	—	—	—	—	—	—	1	—	—	—	—	—	—	Ischuria,	—	—	—	1	—	—	—	—	
Fem.,	.	.	.	.	—	—	—	—	—	—	—	—	—	—	—	—	—	"	—	—	—	—	—	—	—	—	
Males,	19	.	.	37	2	2	3	3	2	2	1	2	1	2	—	1	—	Jaundice,	0	2	1	—	2	3	5	—	
Fem.,	.	18	.	.	2	—	4	—	—	2	2	3	—	—	—	—	—	"	5	1	1	3	2	2	1	—	
Males,	8	.	.	11	2	1	—	—	—	—	1	1	—	—	2	1	—	Joint Disease,	—	1	—	1	2	1	—	—	
Fem.,	.	3	.	.	1	1	—	—	—	—	—	—	—	—	—	—	—	"	—	—	—	1	—	—	—	—	
Males,	77	.	.	102	5	4	4	6	7	4	4	10	4	12	5	12	—	Kidney Disease,	5	5	8	7	13	20	7	1	
Fem.,	.	25	.	.	1	3	1	1	1	3	—	2	4	6	1	2	—	"	—	1	4	2	4	6	2	6	
Males,	8	.	.	15	1	1	1	1	3	1	—	—	—	1	—	—	—	Laryngitis,	2	1	—	2	1	—	—	—	
Fem.,	.	7	.	.	1	—	1	2	2	—	—	—	—	—	—	1	—	"	3	—	—	—	—	1	—	—	
Males,	2	.	.	2	—	—	—	—	—	—	—	2	—	—	—	—	—	Lightning,	—	—	—	—	—	—	—	—	
Fem.,	.	.	.	.	—	—	—	—	—	—	—	—	—	—	—	—	—	"	—	—	—	—	—	—	—	—	

Males, Fem.,	74	67	141	8	5	12	2	6	6	6	11	5	6	8	4	Liver Disease, “	10	1	1	8	7	12	17	12	4	1	1
Males, Fem.,	11	11	11	3	—	1	—	—	—	—	—	1	3	—	1	Lost at Sea, “	—	—	—	2	5	1	3	—	—	—	—
Males, Fem.,	28	51	51	1	2	1	3	2	—	4	—	1	3	2	4	Lungs, Disease of, “	8	—	1	1	1	2	5	5	—	—	—
Males, Fem.,	8	18	18	—	1	1	—	2	—	—	1	2	1	—	—	Malformation, “	8	—	—	—	—	—	—	—	—	—	—
Unk.,	1	1	1	—	—	—	—	—	1	—	—	—	—	—	—	“	4	—	—	—	—	—	—	—	—	—	—
Males, Fem.,	2	3	3	—	—	—	—	—	—	1	—	1	—	—	—	Malignant Pustule, “	—	—	—	2	—	—	—	—	—	—	—
Males, Fem.,	69	136	136	5	5	5	8	6	9	16	8	2	—	1	4	Measles, “	61	4	8	1	1	—	—	1	—	—	
Fem.,	42	42	42	8	4	9	6	5	1	2	1	1	5	2	8	Metria, (Puer. Fer.)	—	—	—	2	22	14	4	—	—	—	—
Fem.,	7	7	7	—	2	1	1	—	—	—	—	1	1	—	1	Metritis, “	—	—	—	3	2	2	—	—	—	—	—
Males, Fem.,	22	42	42	1	3	4	—	2	3	1	2	1	8	1	1	Mortification, “	2	1	—	1	1	—	4	3	8	2	—
Males, Fem.,	9	11	11	—	—	—	—	1	2	—	—	2	2	—	2	“	2	—	—	—	—	—	1	3	6	6	—
Males, Fem.,	2	2	2	—	—	—	—	1	2	—	—	2	2	—	2	Murder, “	—	—	1	3	1	2	1	—	—	—	—
Males, Fem.,	87	18	55	—	5	5	7	2	1	6	1	3	2	3	2	Nephria, “	2	1	—	7	7	7	1	6	3	—	—
				2	1	2	2	—	1	8	2	1	1	2	1	“	1	1	—	3	3	3	2	4	1	—	—

**TABLE VIII.—Continued.**

[illegible]



**TABLE VIII.—Continued.**

SEX.	DEATHS.			MONTHS.												CAUSES OF DEATH.	AGES.											
	Males.	SEX.		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.		Unknown.	Under 4.	5 to 14.	15 to 24.	25 to 34.	35 to 44.	45 to 54.	55 to 64.	65 to 74.	75 to 84.	Over 84.	Unknown.
		Fem.	Unk.																									
Males, Fem.,	5	6	11	-	2	1	-	-	-	-	-	-	2	-	1	-	-	5	-	-	-	-	-	-	1	-	-	-
Males, Fem.,	126	95	221	19	17	11	20	24	11	8	3	3	1	2	7	-	-	51	8	3	31	17	7	5	2	-	1	1
Males, Fem.,	4	2	6	-	-	-	-	-	1	1	-	1	-	1	-	-	-	4	-	-	-	-	-	-	-	-	-	-
Males, Fem.,	41	29	70	1	4	8	4	3	4	5	1	5	3	1	2	-	-	10	6	11	2	3	-	2	2	2	1	-
Males, Fem.,	1	1	2	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Males, Fem.,	28	1	29	15	2	6	2	1	1	1	1	-	-	-	-	-	-	1	-	1	18	6	6	-	-	-	-	1
Males, Fem., Unk.,	2	8	6	-	1	-	-	-	-	-	1	-	1	-	-	-	-	1	-	1	-	-	-	-	1	-	-	-
Males, Fem.,	9	15	24	3	2	1	-	3	1	1	4	-	1	1	2	-	-	4	1	-	1	-	-	2	3	4	-	1



**TABLE VIII.—Concluded.**

SEX.	DEATHS.			MONTHS.												CAUSES OF DEATH.	AGES.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	Males	SEX.		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.		Unknown.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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Males, Fem.,	8	.	7.	.15	-	-	-	-	-	1	2	1	1	4	-	-	Ulcers, “	.	.	.	1	-	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1</

TABLE IX.—CAUSES OF DEATH—CLASSIFIED ARRANGEMENT.

*Distinguishing by Counties, the registered number of Deaths from various specified causes, (statistically classified,) during the year*

1865.

[Still-births included.]

CAUSES OF DEATH.	BATH.	Barnstable.	Berkshire.	Bristol.	Dukes and Martha.	Knox.	Franklin.	Hampden.	Hampshire.	Middlesex.	Norfolk.	Plymouth.	Suffolk.	Worcester.
<b>All Causes,*</b>	27,011	642	1,032	1,878	200	3,784	585	1,241	829	4,366	2,293	1,406	5,245	3,510
<b>Specified Causes,*</b>	26,340	623	992	1,815	196	3,676	570	1,205	804	4,262	2,233	1,366	5,162	3,436
<b>(CLASSES.)</b>														
I.—ZYMOTIC DISEASES, . . .	8,219	169	360	615	85	1,246	198	370	260	1,135	667	457	1,376	1,281
II.—CONSTITUTIONAL DISEASES, . . .	6,541	171	231	449	29	980	130	233	135	1,153	536	350	1,253	788
III.—LOCAL DISEASES, . . .	6,435	146	217	433	29	783	156	272	220	1,063	538	382	1,490	766
IV.—DEVELOPMENTAL DISEASES, . . .	4,215	115	141	266	44	571	66	237	107	755	406	197	838	472
V.—VIOLENT DEATHS, . . .	930	22	43	52	9	96	20	43	32	153	86	30	215	129
<b>(ORDERS.)</b>														
I.—1. Miasmatic Diseases, . . .	8,059	169	354	604	85	1,230	198	364	259	1,104	655	453	1,314	1,270
2. Euthetic Diseases, . . .	43	—	—	1	—	3	—	3	1	10	1	2	21	1
3. Dietic Diseases, . . .	100	—	5	7	—	9	—	1	—	18	10	1	39	10
4. Parasitic Diseases, . . .	17	—	1	3	—	4	—	2	—	3	1	1	2	—
II.—1. Diathetic Diseases, . . .	1,077	24	40	96	4	179	22	33	26	138	83	70	149	158
2. Tubercular Diseases, . . .	5,464	147	191	353	25	801	108	250	159	963	443	280	1,104	630

\* Including Still-born.



TABLE IX.—Continued.

CAUSES OF DEATH.	STATE.	Hampshire.	Berkshire.	Wiltshire.	Dorset and Dorchester.	Devon.	Franklin.	Hampshire.	Middlesex.	Norfolk.	Plymouth.	Suffolk.	Worcester.
III.—1. Diseases of Nervous System, . . .	2,383	63	73	194	9	286	48	97	380	190	180	543	279
2. Diseases of Organs of Circulation, . . .	839	28	26	55	6	113	24	35	158	73	57	140	103
3. Diseases of Respiratory Organs, . . .	1,886	30	70	103	3	230	43	81	301	158	73	485	288
4. Diseases of Digestive Organs, . . .	855	17	35	54	5	109	33	27	141	73	46	180	97
5. Diseases of Urinary Organs, . . .	259	5	10	13	4	25	5	11	48	26	15	75	18
6. Diseases of Digestive Organs, . . .	40	—	1	1	1	4	—	—	7	4	3	10	6
7. Diseases of Organs of Locomotion, . . .	99	3	2	9	—	9	2	9	13	10	4	20	14
8. Diseases of Integumentary System, . . .	74	—	—	4	1	7	1	1	15	4	4	27	8
IV.—1. Dev. Diseases of Children, . . .	2,557	65	69	155	7	327	23	148	453	228	96	656	269
2. Dev. Diseases of Adults, . . .	160	3	11	8	2	27	—	7	26	11	4	39	20
3. Dev. Diseases of Old People, . . .	1,361	47	51	90	32	205	39	69	252	162	89	102	173
4. Diseases of Nutrition, . . .	137	—	10	13	3	12	4	13	19	5	8	41	5
V.—1. Accident or Negligence, . . .	494	13	21	29	5	50	12	18	80	48	21	126	57
2. Battle, . . .	61	2	4	1	1	7	2	4	7	10	3	4	13
3. Homicide, . . .	27	—	1	—	—	2	—	3	4	4	—	8	1
4. Suicide, . . .	78	1	1	6	—	12	2	4	10	6	3	15	15
5. Execution, . . .	—	—	—	—	—	—	—	—	—	—	—	—	—
6. Violent Deaths, not classed, . . .	270	6	16	16	3	25	4	14	52	18	3	62	43
Sudden Deaths, (Cause unascertained,) . . .	21	1	4	1	—	6	—	2	3	2	—	—	2
Causes not specified,* . . .	650	18	36	62	4	102	15	34	101	58	40	83	72

## DISEASES.

I.—1. *Miasmatic.*

Totals,	169	354	604	85	1,280	198	364	259	1,104	655	453	1,314	1,270
1. Smallpox,	8	1	11	—	19	—	7	1	17	21	3	122	16
2. Measles,	—	1	7	—	17	3	2	1	9	6	5	28	57
3. Scarletina,	28	22	56	53	115	23	7	6	129	65	56	83	164
4. Diphtheria,	15	40	58	—	179	18	84	40	79	55	27	55	72
5. Quinsy,	2	1	2	—	6	—	1	—	3	5	1	3	1
6. Croup,	10	24	34	5	69	4	36	15	85	46	12	83	81
7. Whooping Cough,	10	3	30	—	38	1	6	2	41	31	22	101	78
8. Typhus (and Infantile Fever),	58	133	180	16	222	79	104	73	197	104	127	162	289
9. Erysipelas,	2	4	6	—	13	2	5	9	31	10	16	40	18
10. Metris (Puerperal Fever),	—	—	5	—	2	1	3	1	6	8	3	16	2
11. Carbuncle,	—	—	—	—	—	—	—	1	—	8	—	8	1
12. Influenza,	1	—	6	—	8	—	2	1	10	3	11	5	5
13. Dysentery,	27	92	147	5	309	38	68	73	162	119	86	164	258
14. Diarrhea,	7	19	25	—	55	4	28	6	63	43	32	127	55
15. Cholera Infantum,	6	10	75	5	155	22	52	25	230	117	48	268	149
16. Cholera,	—	4	2	—	7	2	3	4	13	8	3	25	13
17. Ague,	—	—	2	—	—	—	—	—	2	2	2	2	—
18. Remittent Fever,	1	—	2	1	—	—	1	—	3	1	1	8	—
19. Rheumatism,	1	—	6	—	16	1	6	1	24	13	3	21	11

\* Including 70 deaths from "Hæmorrhage," 73 from "Tumor," and 38 from "Inflammation."

TABLE IX.—Continued.

CAUSES OF DEATH.	STATE.	Massachusetts.	Berkshire.	Worcester.	Dukes and Nantucket.	Keese.	Franklin.	Hampden.	Hampshire.	Middlesex.	Kent.	Plymouth.	Suffolk.	Worcester.
<b>I.—2. <i>Ethetic.</i></b>														
Totals, . . . . .	43	—	—	—	1	—	—	3	—	—	—	—	—	—
1. Syphilis, . . . . .	38	—	—	—	1	—	—	2	—	—	—	—	—	—
2. Stricture of Urethra, . . . . .	2	—	—	—	—	—	—	—	—	—	—	—	—	—
3. Hydrophobia, . . . . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4. Glanders, . . . . .	3	—	—	—	—	—	—	—	—	—	—	—	—	—
<b>I.—3. <i>Dietic.</i></b>														
Totals, . . . . .	100	—	5	7	—	9	—	1	—	18	10	1	39	10
1. Privation, . . . . .	29	—	1	5	—	4	—	—	—	8	8	—	1	2
2. Purpura and Scurvy, . . . . .	9	—	1	—	—	1	—	—	—	3	1	—	3	—
3. Delirium Tremens, . . . . .	26	—	—	—	—	2	—	—	—	6	—	1	16	2
4. Intemperance, . . . . .	36	—	3	2	—	2	—	1	—	1	1	—	20	6
<b>I.—4. <i>Parasitic.</i></b>														
Totals, . . . . .	17	—	1	3	—	4	—	2	—	3	1	1	2	—
1. Thrush, . . . . .	4	—	1	—	—	—	—	—	—	1	—	—	2	—
2. Worms, . . . . .	13	—	—	3	—	4	—	2	—	2	1	1	—	—
<b>II.—1. <i>Diathetic.</i></b>														
Totals, . . . . .	1,077	24	40	96	4	179	22	83	26	188	88	70	149	158
1. Gout, . . . . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2. Dropsy and Anæmia, . . . . .	560	8	20	62	3	82	14	19	10	107	86	42	72	85

3. Cancer, . . . . .	375	12	17	29	1	49	7	8	13	60	35	25	68	56
4. Noma, (Canker,) . . . . .	100	-	-	2	-	48	1	4	3	15	14	2	6	10
5. Mortification, . . . . .	42	4	3	3	-	5	-	2	-	6	3	1	8	7
<b>II.—2. Tubercular.</b>														
<b>Totals,</b> . . . . .	5,464	147	191	353	25	801	108	250	159	968	448	280	1,104	680
1. Scrofula, . . . . .	149	1	5	7	-	13	5	6	3	28	15	6	88	22
2. Tabes Mesenterica, . . . . .	259	7	5	9	-	13	-	8	10	41	16	22	116	12
3. Phthisis, (Consumption of Lungs,) . . . . .	4,681	189	169	327	25	712	100	227	139	802	394	234	840	553
4. Hydrocephalus, . . . . .	395	-	12	10	-	63	3	9	7	97	23	18	110	43
<b>III.—1. Nervous System.</b>														
<b>Totals,</b> . . . . .	2,383	63	73	194	9	286	48	97	91	380	190	130	543	279
1. Cephalitis, . . . . .	669	11	25	39	1	80	14	29	35	107	54	19	183	72
2. Apoplexy, . . . . .	263	14	4	18	3	24	7	6	10	48	26	12	63	28
3. Paralysis, . . . . .	479	20	16	31	4	67	12	20	12	81	34	45	62	75
4. Insanity, . . . . .	75	2	-	4	-	5	2	7	1	15	5	4	18	12
5. Chorea, . . . . .	3	-	-	-	-	2	-	-	-	-	-	-	1	-
6. Epilepsy, . . . . .	106	6	8	10	1	9	1	11	11	11	6	5	10	17
7. Tetanus, . . . . .	11	-	-	-	-	3	-	-	-	2	1	-	2	3
8. Convulsions, . . . . .	482	5	13	55	-	56	5	13	17	61	45	23	144	45
9. Brain Diseases, &c., . . . . .	295	5	7	37	-	40	7	11	5	55	19	22	60	27
<b>III.—2. Organs of Circulation.</b>														
<b>Totals,</b> . . . . .	839	28	26	55	6	113	24	35	18	158	73	57	140	106
1. Pericarditis, . . . . .	14	-	-	-	-	1	-	-	-	3	-	2	5	3
2. Aneurism, . . . . .	7	-	-	-	-	-	1	-	-	1	-	1	3	-
3. Heart Disease, &c., . . . . .	818	28	26	55	6	112	23	35	18	154	72	54	182	103

TABLE IX.—Continued.

CAUSES OF DEATH.	COUNTY.													
	BRAX.	Barnstable.	Berkshire.	Bristol.	Dukes and Nantucket.	Knox.	Franklin.	Hamden.	Hampshire.	Middlesex.	Norfolk.	Plymouth.	Suffolk.	Worcester.
III.—3. Respiratory Organs.														
Totals, . . . . .	1,886	30	70	103	3	280	43	81	71	301	168	78	485	288
1. Epistaxis, . . . . .	2	—	—	1	—	2	—	—	—	3	—	—	2	—
2. Laryngitis, . . . . .	15	2	4	10	—	9	1	—	—	19	8	3	7	2
3. Bronchitis, . . . . .	179	3	5	5	1	6	1	4	1	15	12	7	117	6
4. Pleurisy, . . . . .	88	—	—	—	—	—	—	—	—	—	—	—	—	9
5. Pneumonia, . . . . .	1,498	25	62	78	1	194	88	73	62	247	123	60	319	211
6. Asthma, . . . . .	68	—	2	6	1	11	2	8	1	8	5	3	9	7
7. Lung Diseases, &c., . . . . .	51	—	—	3	—	8	1	1	7	9	10	—	9	3
III.—4. Digestive Organs.														
Totals, . . . . .	855	17	35	54	5	109	33	38	27	141	73	46	180	97
1. Gastritis, . . . . .	93	2	3	4	—	6	7	2	3	18	9	3	24	12
2. Enteritis, . . . . .	242	5	13	12	—	29	10	10	7	46	16	10	42	42
3. Peritonitis, . . . . .	65	1	2	2	—	2	2	2	1	16	6	2	26	3
4. Ascites, . . . . .	21	—	—	2	—	—	—	1	—	2	5	1	10	—
5. Ulceration of Intestines, . . . . .	14	1	1	—	—	3	—	1	—	2	2	3	—	1
6. Hernia, . . . . .	53	1	3	6	2	8	2	2	2	4	4	6	8	5
7. Ileus, . . . . .	67	1	1	1	3	16	1	2	3	11	5	2	6	15
8. Intussusception, . . . . .	3	—	—	—	—	—	—	—	—	—	—	1	2	—
9. Stricture of Intestines, . . . . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10. Fistula, . . . . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11. Stomach Disease, &c., . . . . .	76	5	5	7	—	10	2	2	5	10	8	7	18	2
12. Pancreas Disease, &c., . . . . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—
13. Hepatitis, . . . . .	41	1	4	2	—	6	2	—	—	8	2	2	19	—

1865.]

## CLASSIFICATION OF DEATHS.

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14. Jaundice,	.	.	.	.	.	.	.	37	-	-	-	8	11	1	5	1	5	3	2	3
15. Liver Disease, &c.,	.	.	.	.	.	.	.	141	-	-	-	15	18	6	24	6	18	6	27	13
16. Spleen Disease, &c.,	.	.	.	.	.	.	.	2	-	-	-	-	-	-	-	-	-	-	1	1
III.—5. Urinary Organs.																				
Totals,	.	.	.	.	.	.	.	259	5	10	4	13	25	5	11	4	48	15	75	18
1. Nephritis,	.	.	.	.	.	.	.	16	-	4	-	-	-	-	-	-	8	-	6	1
2. Icturia,	.	.	.	.	.	.	.	1	-	-	-	-	-	-	-	-	-	-	1	-
3. Nephritis, (Bright's Disease,)	.	.	.	.	.	.	.	55	-	1	-	1	6	-	-	-	10	2	81	-
4. Diabetes,	.	.	.	.	.	.	.	52	1	4	1	2	5	1	4	-	7	7	7	5
5. Calculus, (Stone, Gravel, &c.,)	.	.	.	.	.	.	.	16	1	-	1	1	2	1	1	2	1	1	1	4
6. Cystitis,	.	.	.	.	.	.	.	11	-	-	1	-	-	-	1	-	3	-	5	1
7. Kidney Disease, &c.,	.	.	.	.	.	.	.	108	3	1	1	9	12	-	5	2	24	4	24	7
III.—6. Generative Organs.																				
Totals,	.	.	.	.	.	.	.	40	-	1	1	1	4	-	-	3	7	4	10	6
1. Ovarian Dropsy,	.	.	.	.	.	.	.	21	-	1	1	-	2	-	-	2	4	1	6	2
2. Disease of Uterus, &c.,	.	.	.	.	.	.	.	19	-	-	-	1	2	-	-	1	3	1	4	4
III.—7. Organs of Locomotion.																				
Totals,	.	.	.	.	.	.	.	99	3	2	-	9	9	2	9	4	13	10	20	14
1. Arthritis,	.	.	.	.	.	.	.	-	-	-	-	-	-	-	-	-	-	-	-	-
2. Joint Disease, &c.,	.	.	.	.	.	.	.	99	-	2	-	9	9	2	9	4	18	10	20	14
III.—8. Integumentary System.																				
Totals,	.	.	.	.	.	.	.	74	-	-	1	4	7	1	1	2	15	4	27	8
1. Phlegmon,	.	.	.	.	.	.	.	48	-	-	-	1	2	1	1	2	10	4	20	5
2. Ulcer,	.	.	.	.	.	.	.	15	-	-	1	2	2	-	-	-	8	-	3	3
3. Skin Diseases, &c.,	.	.	.	.	.	.	.	11	-	-	-	1	3	-	-	-	2	-	4	-

TABLE IX.—Concluded.

CAUSES OF DEATH.	State.	Barnstable.	Berkshire.	Bristol.	Dukes and Marion.	Knox.	Franklin.	Hampden.	Hampshire.	Middlesex.	Norfolk.	Plymouth.	Suffolk.	Worcester.
IV.—1. <i>Dev. Diseases of Children.</i>														
Totals, . . . . .	2,557	65	69	155	7	827	28	148	56	453	228	96	686	269
1. Stillborn, . . . . .	859	25	13	49	2	68	8	11	7	143	71	16	389	57
2. Infantile, Premature, &c., . . . .	1,388	28	47	89	5	196	12	110	41	266	128	58	196	172
3. Cyanosis, . . . . .	26	—	—	—	—	—	1	—	1	1	—	4	19	—
4. Spina Bifida, . . . . .	6	—	—	—	—	—	—	—	—	2	1	—	2	1
5. Other Malformations, . . . . .	13	1	—	—	—	1	—	—	1	6	—	1	2	1
6. Teething, . . . . .	315	11	9	17	—	62	2	27	6	50	28	17	48	38
IV.—2. <i>Dev. Diseases of Adults.</i>														
Totals, . . . . .	160	3	11	8	2	27	—	7	2	26	11	4	39	20
1. Paramenia, . . . . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2. Childbirth, (see also Metria,) . . .	160	3	11	8	2	27	—	7	2	26	11	4	39	20
IV.—3. <i>Dev. Diseases of Old People.</i>														
1. Old Age, . . . . .	1,361	47	51	90	32	205	39	69	45	252	162	89	102	178
IV.—4. <i>Diseases of Nutrition.</i>														
1. Atrophy and Debility, . . . . .	187	—	10	13	3	12	4	13	4	19	5	8	41	5
V.—1. <i>Accident or Negligence.</i>														
Totals, . . . . .	494	13	21	29	5	50	12	18	14	80	48	21	126	57
1. Fractures and Contusions,* . . . .	136	—	3	4	1	13	1	8	—	26	13	3	48	16
2. Burns and Scalds, . . . . .	97	1	8	5	—	7	1	2	5	12	15	6	26	9

3. Poison, . . . . .	19	-	8	2	-	3	8	3	4	1	-	4	2
4. Drowning, . . . . .	186	11	8	13	4	21	5	5	32	15	0	6	27
5. Suffocation, . . . . .	23	-	3	3	-	4	2	2	6	-	2	6	2
6. Otherwise, . . . . .	33	1	2	2	-	2	-	2	11	4	4	11	1
V.—2. <i>Battle.</i>	61	2	4	1	1	7	2	4	4	10	8	4	13
V.—3. <i>Homicide.</i>	27	-	1	-	-	2	-	3	8	4	-	8	1
V.—4. <i>Suicide.</i> †	78	1	1	6	-	12	2	4	15	6	3	15	15
V.—5. <i>Execution.</i>	-	-	-	-	-	-	-	-	-	-	-	-	-
V.—6. <i>Violent Deaths, not classed.</i>	270	6	16	16	3	25	4	14	62	18	3	62	43
Sudden, cause unknown, . . . . .	21	1	4	1	-	6	-	2	-	2	-	-	2
Causes not specified,‡ . . . . .	650	18	36	62	4	102	15	34	101	53	40	83	72

\* Including 102 by "Railroad Accidents."

† Manner not stated in the Returns.

‡ Including 70 deaths from "Hemorrhage," 73 from "Tumor," and 33 from "Inflammation."

NOTE.—Where a person is "found drowned," and the coroner cannot ascertain whether the case is a suicide, murder, or purely accidental, the case is classed under "accident or negligence," (V.; 4.) Cases of "neglect" and "cold," except when the result of privation, (Class I.; 3; 1,) are classed with "Violent Deaths," (V.; 6.) As "stricture of the urethra" is almost invariably the result of gonorrhoea, it is classed as (L.; 2; 2).—[Dr. FARR.]



TABLE X.—CAUSES OF DEATH—CLASSIFIED ARRANGEMENT.

## NUMBERS AND PERCENTAGE.

*Exhibiting the registered Number of Deaths from various specified causes (statistically classified) during the five years, 1861-62-63-64-65, separately and combined, and for the period of twenty-four years and eight months, ending with December 31, 1865;—also showing the Number of each Class, Order, and Disease, in each of the stated periods, to 100 Deaths from specified causes during such period.*

[Still-births included.]

DEATHS.						PERCENTAGE.														
CAUSES OF DEATH.																				
Twenty-four Years and Eight Mos. ending Dec. 31, 1865.	1861.	1862.	1863.	1864.	1865.	Five Yrs. 1861-65.														
480,316	25,102	23,948	28,654	20,579	27,011	134,294	All Causes,*	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00
441,219	24,390	23,249	27,931	28,850	26,340	130,760	Specified Causes,*	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00
128,389	6,765	6,573	9,431	9,508	8,219	40,496	(CLASSES.)	30-97	27-74	28-27	33-77	32-95	31-20	29-10	28-48	21-74	16-76	8-92		
125,661	6,573	6,119	6,642	6,632	6,541	32,527	I.—ZYMOTIC DISEASES,	24-88	26-95	26-32	28-78	23-06	24-84	28-48						
95,938	6,757	5,439	6,541	6,871	6,435	31,043	II.—CONSTITUTIONAL Dis.,	23-74	23-60	23-39	23-42	23-82	24-43	21-74						
73,956	4,321	8,926	4,160	4,157	4,215	20,779	III.—LOCAL DISEASES,	15-39	17-72	16-89	14-89	14-41	16-00	16-76						
17,275	974	1,192	1,157	1,662	930	5,905	IV.—DEVELOPMENTAL Dis.,	4-52	3-99	6-13	4-14	5-76	8-53	8-92						
							V.—VIOLENT DEATHS,													
124,380	6,568	6,376	9,182	9,163	8,059	39,348	(ORDERS.)	30-09	26-93	27-42	32-88	31-76	30-60	28-29						
374	40	85	42	41	43	201	I.—1. Miasmatic Diseases,	16	16	15	15	14	16	16						
2,449	133	141	177	274	100	825	2. Emetic Diseases,	68	55	61	63	95	88	56						
736	24	21	30	30	17	122	3. Dietic Diseases,	99	10	99	11	10	96	17						
							4. Parasitic Diseases,													

19,818	1,054	1,028	1,088	1,040	1,077	5,298	II.—1. Diathetic Diseases,	4-05	4-32	4-40	3-89	3-63	4-10	4-88
106,948	5,510	5,090	5,554	5,606	5,464	27,299	2. Tubercular Diseases,	20-38	22-63	21-92	19-88	19-43	20-74	24-10
38,259	2,101	2,042	2,241	2,557	2,383	11,924	Diseases of—	8-66	8-61	8-78	8-02	8-80	9-05	8-00
11,424	768	730	838	789	839	3,964	III.—1. Nervous System,	3-03	3-15	3-14	3-00	2-74	3-18	2-59
27,813	1,705	1,582	2,181	2,289	1,886	9,573	2. Organs of Circulat'n,	7-82	6-99	6-58	7-81	7-86	7-16	6-80
16,608	827	807	908	886	855	4,283	3. Respiratory Organs,	3-24	3-39	3-47	3-25	2-90	3-25	3-54
2,653	169	174	205	197	259	1,004	4. Digestive Organs,	7-77	6-69	7-75	7-4	6-68	7-08	6-60
283	34	39	36	45	40	194	5. Urinary Organs,	1-15	1-14	1-17	1-13	1-16	1-15	1-06
1,363	89	69	67	98	99	422	6. Generative Organs,	3-32	3-37	3-30	2-4	3-4	3-37	3-81
1,515	64	46	65	80	74	329	7. Organs of Locomot'n,	2-25	2-26	2-29	2-23	2-28	2-29	3-84
							8. Integumentary System							
							Developmentary.							
44,415	2,849	2,522	2,453	2,454	2,557	12,885	Diseases of—	9-81	11-68	10-85	8-78	8-51	9-71	10-07
3,704	217	149	157	169	160	852	IV.—1. Children,	6-65	6-89	6-84	5-66	5-59	6-00	6-84
23,615	1,107	1,137	1,391	1,421	1,361	6,417	2. Adults,	4-91	4-54	4-89	4-98	4-92	5-17	5-35
2,222	148	118	159	113	137	675	3. Old People,	5-52	6-1	5-51	5-57	5-39	5-52	5-50
							4. Nutrition,							
8,708	610	493	553	650	494	2,800	V.—1. Accia'tor Negligence,	2-14	2-50	2-12	1-98	2-25	1-87	1-97
1,245	8	298	244	694	61	1,245	2. Battle,	9-95	9-03	1-28	8-7	2-20	2-23	2-28
288	19	18	24	10	27	98	3. Homicide,	9-07	9-08	9-08	9-09	9-03	10	9-07
1,629	92	92	67	65	78	394	4. Suicide,	8-80	8-88	4-0	2-4	2-3	3-80	3-7
6	1	1	—	—	—	2	5. Execution,	—	—	—	—	—	—	—
5,389	244	290	269	303	270	1,376	6. Viol't L'tha, not clas'd,	1-06	1-00	1-25	9-6	1-05	1-03	1-23
							—							
528	29	38	32	28	21	148	Sudden, (cause unascertain'd)	—	—	—	—	—	—	—
							—							
18,569	683	661	691	701	650	3,386	Causes not specified,*	—	—	—	—	—	—	—

\* Including Stillborn.

TABLE X.—Continued.

DEATHS.						PERCENTAGE.								
Twenty-four Years and Eight Months ending Dec. 31, 1864.	1861.	1862.	1863.	1864.	1865.	Five Yrs. 1861-65.	CAUSES OF DEATH.	Five Yrs. 1861-65.	1861.	1862.	1863.	1864.	1865.	Twenty-four Years and Eight Months ending Dec. 31, 1864.
							I.—1. <i>Miasmatic.</i>							
2,646	33	40	42	242	221	578	1. Smallpox, . . . . .	.44	.14	.17	.15	.84	.84	.60
4,197	209	369	141	320	136	1,175	2. Measles, . . . . .	.90	.86	1.59	.51	1.12	.52	.95
19,562	1,137	1,261	1,399	1,503	807	6,107	3. Scarlatina, . . . . .	4.67	4.66	5.42	5.01	5.21	3.06	4.50
4,937	643	668	1,420	1,231	672	4,029	4. Diphtheria, . . . . .	3.54	2.64	2.85	5.08	4.27	2.56	1.12
566	70	44	32	43	24	213	5. Quinsy, . . . . .	.16	.29	.19	.12	.15	.09	.13
10,429	461	484	864	768	504	3,081	6. Croup, . . . . .	2.86	1.89	2.08	3.09	2.66	1.91	2.36
5,127	406	254	295	235	363	1,553	7. Whooping Cough, . . . . .	1.19	1.66	1.09	1.06	.81	1.37	1.16
24,603	989	1,135	1,442	1,344	1,694	6,604	8. Typhus (and Inf. Fev.), . . . . .	5.05	4.06	4.88	5.16	4.66	6.43	5.58
3,393	201	124	176	189	156	846	9. Erysipelas, . . . . .	.65	.82	.53	.63	.66	.59	.77
756	67	51	47	42	42	249	10. Metria, (Puerp. Fever.) . . . . .	.19	.26	.22	.17	.14	.16	.17
63	14	4	5	3	8	34	11. Carbuncle, . . . . .	.03	.06	.02	.02	.01	.03	.02
1,123	60	16	70	29	52	227	12. Influenza, . . . . .	.17	.25	.07	.25	.10	.20	.25
22,570	532	479	1,156	1,186	1,548	4,901	13. Dysentery, . . . . .	3.75	2.18	2.06	4.14	4.11	5.88	5.12
5,503	272	340	671	539	464	2,336	14. Diarrhea, . . . . .	1.78	1.12	1.46	2.40	2.04	1.76	1.25
13,988	1,266	900	1,164	1,198	1,154	5,682	15. Cholera Infantum, . . . . .	4.84	5.19	3.87	4.17	4.15	4.38	3.17
3,404	79	85	121	95	84	464	16. Cholera, . . . . .	.85	.32	.37	.43	.33	.32	.77
141	1	17	24	9	10	61	17. Ague, . . . . .	.05	-	.17	.09	.03	.04	.03
187	16	11	18	39	18	102	18. Remittent Fever, . . . . .	.08	.07	.05	.06	.13	.07	.04
1,335	112	99	95	98	102	506	19. Rheumatism, . . . . .	.39	.46	.43	.34	.34	.39	.30

310	37	31	35	87	38	178	I.—2. <i>Enthetic.</i>				.14	.13	.13	.14	.07
10	—	—	1	1	2	4	1. Syphilis, . . . . .				—	—	—	.01	—
25	—	—	1	1	—	2	2. Stricture of Urethra, . . . . .				—	—	—	—	.005
29	3	4	5	2	3	17	3. Hydrophobia, . . . . .				—	—	—	.01	.005
							4. Glanders, . . . . .				.02	.02	.02	.01	—
150	3	1	2	105	29	140	I.—3. <i>Dietic.</i>				.11	.87	.87	.11	.08
166	8	16	13	27	9	73	1. Privation, . . . . .				.05	.07	.05	.03	.04
665	42	45	61	49	26	223	2. Purpura and Scoury, . . . . .				.17	.20	.22	.10	.15
1,468	80	79	101	93	36	389	3. Del. Trem., } Alcoholism, 4. Intempr'ce, }				.80	.84	.86	.14	.84
327	14	8	10	4	4	40	1.—4. <i>Parasitic.</i>				.03	.03	.04	.01	.08
409	10	13	20	26	13	82	1. Thrush, . . . . .				.06	.06	.07	.05	.09
							2. Worms, . . . . .				.04	.04	.07	.05	—
56	4	3	2	3	—	12	II.—1. <i>Diathetic.</i>				.01	.01	.01	—	.01
10,284	551	531	600	584	560	2,826	1. Gout, . . . . .				2.16	2.15	2.03	2.13	2.33
5,139	336	319	324	330	375	1,684	2. Dropsy and Anæmia, . . . . .				1.29	1.37	1.16	1.43	1.17
2,906	119	129	109	93	100	550	3. Cancer, . . . . .				.42	.56	.39	.88	.66
933	44	41	53	36	42	216	4. Noma, (Canker,) . . . . .				.17	.18	.19	.16	.21
							5. Mortification, . . . . .				.17	.18	.19	.16	—
2,393	208	152	152	154	149	815	II.—2. <i>Tubercular.</i>				.62	.65	.54	.57	.54
4,286	327	265	291	273	259	1,415	1. Scrofula, . . . . .				1.08	1.14	1.04	.95	.97
90,853	4,522	4,269	4,667	4,783	4,661	22,862	2. Tabes Mesenterica, . . . . .				17.48	18.36	16.71	16.40	20.59
8,871	462	410	444	446	395	2,157	3. Phthisis, (Consumption,) . . . . .				1.65	1.77	1.59	1.50	2.00
							4. Hydrocephalus, . . . . .				1.65	1.90	1.59	1.50	2.00

TABLE X.—Continued.

DEATHS.						PERCENTAGE.								
Twenty-four Years and Eight Mos. ending Dec. 31, 1865	1861.	1862.	1863.	1864.	1865.	Five Yrs. 1861-65	CAUSES OF DEATH.	Five Yrs. 1861-65	1861.	1862.	1863.	1864.	1865.	Twenty-four Years and Eight Mos. ending Dec. 31, 1865
III.—1. Nervous System.														
8,105	501	485	524	728	669	2,907	1. Cephalitis, . . .	2.23	2.05	2.09	1.88	2.52	2.54	1.84
4,009.	274	251	268	321	263	1,377	2. Apoplexy, . . .	1.05	1.12	1.08	.96	1.11	1.00	.91
6,840	417	401	471	473	479	2,241	3. Paralysis, . . .	1.71	1.71	1.73	1.68	1.64	1.82	1.55
954	61	66	62	64	75	328	4. Insanity, . . .	.25	.25	.28	.22	.22	.29	.22
80	2	1	5	1	3	12	5. Chorea, . . .	.01	.01	—	.02	—	.01	.01
2,902	176	143	161	166	106	752	6. Epilepsy, . . .	.58	.72	.02	.58	.58	.40	.66
255	9	17	9	11	11	57	7. Tetanus, . . .	.04	.04	.07	.03	.04	.04	.05
7,813	398	447	407	453	482	2,247	8. Convulsions, . . .	1.72	1.63	1.92	1.67	1.57	1.83	1.77
4,351	263	231	274	340	295	1,403	9. Brain Disease, &c., . . .	1.07	1.08	.99	.98	1.18	1.12	.99
III.—2. Organs of Circulat'n.														
168	20	16	13	11	14	74	1. Pericarditis, . . .	.06	.08	.07	.05	.04	.06	.04
56	6	7	6	7	7	33	2. Aneurism, . . .	.02	.03	.03	.02	.03	.02	.01
11,200	742	707	819	771	818	3,857	3. Heart Disease, &c., . . .	2.95	3.04	3.04	2.93	2.67	3.10	2.54
III.—3. Respiratory Organs.														
7	—	2	—	3	2	7	1. Epistaxis, . . .	—	—	—	—	.01	.01	—
149	18	7	11	14	15	65	2. Laryngitis, . . .	.05	.07	.03	.04	.05	.05	.03
1,594	188	185	197	194	179	943	3. Bronchitis, . . .	.72	.77	.80	.70	.07	.69	.86
2,410	119	102	128	143	88	580	4. Pleurisy, . . .	.45	.49	.44	.46	.49	.33	.54
21,926	1,285	1,140	1,724	1,801	1,493	7,443	5. Pneumonia, . . .	5.69	5.27	4.90	6.17	6.24	5.67	4.97
615	42	44	58	53	58	255	6. Asthma, . . .	.20	.17	.19	.21	.18	.22	.14
1,112	53	52	63	61	51	280	7. Lung Disease, &c., . . .	.21	.22	.22	.23	.21	.19	.26

III.—4. Digestive Organs.									
1. Gastritis, . . . . .	412	93	77	87	67	88	315	19	
2. Enteritis, . . . . .	1,217	242	271	234	231	289	4,845	10	
3. Peritonitis, . . . . .	209	65	54	71	34	45	540	12	
4. Ascites, . . . . .	92	21	22	14	23	12	127	13	
5. Ulceration of Intestines, . . . . .	78	14	13	24	14	13	184	10	
6. Hernia, . . . . .	168	53	25	20	30	40	427	26	
7. Ileus, . . . . .	384	67	63	82	72	50	1,125	26	
8. Intussusception, . . . . .	15	3	2	5	4	1	111	3	
9. Stricture of Intestines, . . . . .	1	—	—	1	—	—	2	—	
10. Fistula, . . . . .	8	—	1	6	1	—	22	—	
11. Stomach Diseases, &c., . . . . .	484	76	87	104	111	106	3,796	86	
12. Pancreas Disease, &c., . . . . .	—	—	—	—	—	—	2	—	
13. Hepatitis, . . . . .	209	41	45	48	35	40	329	16	
14. Jaundice, . . . . .	172	37	28	45	29	35	693	59	
15. Liver Disease, &c., . . . . .	767	141	150	166	153	157	2,621	—	
16. Spleen Disease, &c., . . . . .	7	2	—	1	8	1	19	—	
III.—5. Urinary Organs.									
1. Nephritis, . . . . .	89	16	36	13	8	16	136	3	
2. Ischuria, . . . . .	30	1	3	8	8	10	66	3	
3. Nephria, (Bright's Dis.), . . . . .	128	55	13	33	13	14	142	3	
4. Diabetes, . . . . .	199	52	31	45	36	35	608	14	
5. Calculus, (Gravel, &c.), . . . . .	72	16	15	18	12	11	444	10	
6. Cystitis, . . . . .	65	11	7	21	14	12	126	3	
7. Kidney Disease, &c., . . . . .	421	108	92	67	83	71	1,131	26	
III.—6. Generative Organs.									
1. Ovarian Dropsy, . . . . .	97	21	22	19	18	17	134	3	
2. Uterus Disease, &c., . . . . .	97	19	23	17	21	17	149	3	

TABLE X.—Concluded.

DEATHS.						PERCENTAGE.									
Twenty-four Years and Eight Not ending Dec. 31, 1863.	1861.	1862.	1863.	1864.	1865.	Five Yrs. 1861-65	CAUSES OF DEATH.								
													</		





TABLE XI.—OCCUPATIONS.

*Distinguishing by Occupations (statistically classified) the Number, with their Average and Aggregate Ages, of Persons in the State (in two geographical divisions) whose Occupations were specified, and whose Deaths were registered, during the year 1865:—also in the State (entire) during the period of Twenty-two Years and Eight Months, ending with December 31, 1865.*

[This Table includes only persons over twenty years of age.\*]

OCCUPATIONS.	NINE EASTERN COUNTIES, 1865.			FIVE WESTERN COUNTIES, 1865.			WHOLE STATE, Twenty-two Years and Eight Months From May 1, 1842, to Dec. 31, 1865.		
	Number of Persons.	AGES.		Number of Persons.	AGES.		Number of Persons.	AGES.	
		Aggregate.	Average.		Aggregate.	Average.		Aggregate.	Average.
ALL CLASSES OF OCCUPATIONS, . . .	4,042	202,166	50-02	1,601	79,534	49-68	90,658	4,579,506	50-52
I. CULTIVATORS OF THE EARTH, . . .	551	36,419	66-09	593	35,964	60-65	21,661	1,388,816	64-11
II. ACTIVE MECHANICS ABROAD, . . .	308	16,029	52-07	83	3,510	42-29	6,539	352,281	50-81
III. ACTIVE MECHANICS IN SHOPS, . . .	458	22,039	48-28	202	9,273	45-91	9,177	442,631	48-23
IV. INACTIVE MECHANICS IN SHOPS, . . .	506	22,502	44-47	161	6,987	43-40	10,226	438,234	42-86
V. LABORERS—No SPECIAL TRADES, . . .	753	37,863	50-28	221	10,093	45-67	16,768	775,584	43-25
VI. FACTORS LABORING ABROAD, . . .	337	11,612	34-46	79	2,634	33-34	4,773	165,455	34-67
VII. EMPLOYED ON THE OCEAN, . . .	298	13,147	44-09	1	22	22-00	5,817	263,624	45-32
VIII. MERCHANTS, FINANCIERS, CAPITALISTS, . . .	569	29,458	51-77	121	5,289	43-30	8,639	416,851	48-25
IX. PROFESSIONAL MEN, . . .	157	7,887	50-23	59	2,758	46-75	3,115	156,334	50-18
X. FEMALES, . . .	105	5,210	49-62	81	3,054	37-70	3,943	179,606	45-57

I. CULTIVATORS OF THE EARTH,	551	36,410	06-09	598	35,964	60-65	21,661	1,888,816	64-11
II. ACTIVE MECHANICS ABROAD,	308	16,029	52-07	88	3,510	42-29	6,589	392,281	50-81
Brickmakers,	5	327	65-40	1	51	51-00	59	2,904	49-22
Carpenters,	164	8,848	53-95	64	2,879	37-17	8,666	186,985	51-01
Caulkers and Gravers,	4	149	37-25	-	-	-	113	6,654	58-88
Masons,	58	2,964	51-10	9	590	65-55	986	46,269	49-42
Millwrights,	2	111	55-50	2	130	65-00	87	4,878	56-07
Riggers,	6	296	49-33	-	-	-	111	6,709	51-44
Ship-carpenters,	26	1,469	56-50	1	77	77-00	571	32,388	56-68
Slaters,	3	105	36-00	-	-	-	17	654	38-47
Stonecutters,	34	1,406	41-35	7	260	52-00	549	25,065	45-65
Tanners,	6	854	59-00	1	23	23-00	480	20,825	48-43
III. ACTIVE MECHANICS IN SHOPS,	458	22,039	48-23	202	9,273	45-91	9,177	442,681	48-23
Bakers,	11	555	50-42	3	117	39-00	286	13,080	45-59
Blacksmiths,	65	3,408	52-43	22	1,286	58-45	1,581	83,480	52-80
Brewers,	2	130	65-00	-	-	-	10	568	55-80
Cabinet-makers,	21	1,162	55-33	5	356	71-20	464	22,525	48-54
Calico-printers,	2	127	63-50	-	-	-	9	469	52-11
Card-makers,	-	-	-	2	65	32-50	31	1,406	43-35
Carriage-makers,	3	146	48-66	2	149	74-50	150	7,598	50-65
Chair-makers,	1	67	67-00	3	134	44-66	61	2,506	41-08
Clothiers,	2	88	44-00	2	156	78-00	62	3,607	58-19
Confectioners,	-	-	-	-	-	-	37	1,508	40-76
Cooks,	4	167	44-25	2	59	29-50	60	2,423	40-38
Coopers,	30	1,748	58-27	5	358	71-60	621	86,779	59-22
Coppersmiths,	2	113	56-50	-	-	-	67	3,156	47-10

\* Soldiers and females excepted.

TABLE XI.—Continued.

OCCUPATIONS.	NINE EASTERN COUNTIES, 1865.			FIVE WESTERN COUNTIES, 1865.			WHOLE STATE, Twenty-two Years and Eight Months From May 1, 1843, to Dec. 31, 1865.		
	Number of Persons.	AGES.		Number of Persons.	AGES.		Number of Persons.	AGES.	
		Aggregate.	Average.		Aggregate.	Average.		Aggregate.	Average.
Curriers, . . . . .	14	534	38-14	2	63	31-50	97	4,153	42-81
Cutlers, . . . . .	5	165	33-00	3	127	42-33	70	2,646	37-80
Distillers, . . . . .	-	-	-	-	-	-	19	1,059	55-73
Dyers, . . . . .	1	66	66-00	1	45	45-00	85	3,672	43-20
Founders, . . . . .	7	240	34-28	-	-	-	159	7,187	45-20
Furnace-men, . . . . .	1	67	67-00	-	-	-	64	2,616	40-87
Glass-blowers, . . . . .	6	278	46-33	5	228	45-60	86	3,288	38-23
Gunsmiths, . . . . .	1	32	32-00	5	208	41-60	219	10,460	47-76
Hatters, . . . . .	10	508	50-80	1	68	68-00	242	13,308	54-96
Leather-dressers, . . . . .	2	104	52-00	1	60	60-00	94	4,309	45-84
Machinists, . . . . .	63	2,483	39-41	37	1,469	39-70	1,184	45,386	40-02
Millers, . . . . .	5	300	60-00	5	344	68-80	176	10,339	58-74
Musical Instrument-makers, Nail-makers, . . . . .	11	513	46-64	-	-	-	9	325	36-11
Pail and tub-makers, . . . . .	-	-	-	-	-	-	104	4,028	38-73
Painters, . . . . .	57	2,066	45-72	16	796	49-75	4	158	39-50
Paper-makers, . . . . .	8	356	44-50	7	286	40-86	961	44,648	46-46
Pianoforte-makers, . . . . .	6	185	30-83	-	-	-	177	8,270	46-71
Plumbers, . . . . .	4	186	46-50	-	-	-	55	2,198	39-98
Potters, . . . . .	1	55	55-00	-	-	-	40	1,814	37-01
Pump and block-makers, Reed-makers, . . . . .	4	241	60-25	-	-	-	24	1,878	57-40
Rope-makers, . . . . .	-	-	-	1	36	38-00	58	3,265	56-29
Tallow-chandlers, . . . . .	6	400	66-66	-	-	-	8	365	45-62
	1	28	28-00	-	-	-	168	9,639	57-38
				-	-	-	48	2,601	54-19

Tinmiths, . . . . .	12	593	49-42	4	210	52-50	225	9,094	40-42
Trunk-makers, . . . . .	1	58	58-00	1	-	-	29	1,189	30-28
Upholsterers, . . . . .	3	127	42-33	1	54	54-00	63	2,415	38-38
Weavers, . . . . .	8	377	47-12	3	88	29-38	287	10,695	45-13
Wheelwrights, . . . . .	11	644	58-55	5	297	59-40	341	18,846	55-27
Wood-turners, . . . . .	1	55	55-00	2	129	64-50	88	1,940	51-05
Mechanics, (trades not specified,) . . . . .	70	3,127	44-67	57	2,085	36-58	745	32,395	43-48
IV. INACTIVE MECHANICS IN SHOPS, . . . . .	506	22,502	44-47	101	6,987	43-40	10,226	488,234	42-86
Barbers, . . . . .	12	553	46-08	1	23	23-00	214	9,005	42-08
Basket-makers, . . . . .	6	180	30-00	2	102	51-00	46	2,819	61-28
Book-binders, . . . . .	2	102	51-00	1	-	-	79	2,999	37-96
Brush-makers, . . . . .	7	243	34-71	1	43	43-00	29	1,235	42-58
Carvers, . . . . .	4	221	55-25	2	37	37-00	89	1,265	32-44
Cigar-makers, . . . . .	4	242	60-50	2	68	31-00	71	2,635	37-11
Clock and Watch-makers, . . . . .	2	101	50-50	-	-	-	53	8,166	59-74
Comb-makers, . . . . .	7	287	41-00	1	30	30-00	88	4,203	47-76
Engravers, . . . . .	3	148	47-66	-	-	-	65	2,694	41-45
Glass-cutters, . . . . .	12	468	39-00	5	-	-	38	1,668	43-89
Harness-makers, . . . . .	11	435	39-55	2	319	63-80	246	11,711	47-61
Jewellers, . . . . .	35	1,501	42-86	33	1,188	57-50	264	10,450	39-59
Operators, . . . . .	31	1,419	45-48	2	41	36-00	947	35,971	37-98
Printers, . . . . .	9	672	45-48	1	21	20-50	409	15,491	37-88
Sail-makers, . . . . .	17	706	63-55	4	128	21-00	135	6,972	51-64
Shoe-cutters, . . . . .	298	18,073	41-53	82	3,557	32-00	160	6,388	39-93
Shoemakers, . . . . .	-	-	43-87	1	27	43-38	6,251	271,177	43-38
Silversmiths, . . . . .	43	2,100	-	14	908	27-00	51	2,266	44-43
Tailors, . . . . .	1	82	48-84	1	55	44-86	870	38,504	44-26
Tobacconists, . . . . .	-	-	82-00	3	111	55-00	28	1,474	52-64
Whip-makers, . . . . .	2	74	-	5	214	37-00	61	2,594	40-53
Wool-sorters, . . . . .	-	-	37-00	-	-	42-80	79	8,547	44-90

TABLE XI.—Continued.

OCCUPATIONS.	NINE EASTERN COUNTIES, 1865.			FIVE WESTERN COUNTIES, 1865.			WHOLE STATE, Twenty-two Years and Eight Months From May 1, 1843, to Dec. 31, 1865.		
	Number of Persons.	AGES.		Number of Persons.	AGES.		Number of Persons.	AGES.	
		Aggregate.	Average.		Aggregate.	Average.		Aggregate.	Average.
V. LABORERS—No Special Trades,	753	37,863	50.28	221	10,093	45.67	16,768	775,584	46.25
Brakemen, . . . . .	2	66	33.00	5	158	31.60	92	2,542	27.63
Chimney-sweepers, . . . . .	—	—	—	—	—	—	3	118	39.33
Drivers, . . . . .	9	297	33.22	—	—	—	155	6,127	39.53
Laborers, . . . . .	722	36,727	50.87	216	9,935	45.99	16,313	768,424	46.49
Servants, . . . . .	20	773	38.65	—	—	—	188	7,701	40.96
Workmen in powder-mills, . . . . .	—	—	—	—	—	—	17	672	39.53
VI. FACTORS LABORING ABROAD,	337	11,612	34.46	79	2,634	33.34	4,773	165,455	34.07
Baggage-masters, . . . . .	—	—	—	—	—	—	21	673	32.05
Butchers, . . . . .	18	917	50.94	6	242	40.33	318	15,372	49.91
Drivers, . . . . .	2	150	75.00	—	—	—	12	624	52.00
Engineers and Firemen, . . . . .	11	371	33.73	4	198	49.50	229	8,467	36.97
Expressmen, . . . . .	6	209	34.83	1	52	52.00	103	3,966	38.50
Fencing-masters, . . . . .	—	—	—	—	—	—	3	122	40.66
Ferry-men, . . . . .	—	—	—	—	—	—	6	326	54.33
Light-house keepers, . . . . .	—	—	—	—	—	—	8	459	57.37
News Carriers, . . . . .	—	—	—	1	61	61.00	10	408	40.80
Peddlers, . . . . .	8	444	55.50	3	102	34.00	224	9,788	43.47
Sextons, . . . . .	3	203	67.66	—	—	—	33	1,908	57.82
Sheriffs and Constables, . . . . .	1	48	48.00	—	—	—	48	2,741	57.10

Soldiers, . . . . .	281	6,809	29-48	51	1,403	27-51	2,763	77,987	28-23
Stablers, . . . . .	14	641	46-60	5	245	49-00	195	8,160	41-87
Stevadores, . . . . .	5	280	46-00	-	-	-	47	2,524	53-71
Teamsters, . . . . .	27	1,035	38-33	6	237	39-50	621	24,994	40-23
Watchmen, . . . . .	7	827	46-71	2	94	47-00	97	4,612	47-54
Weights and Gaugers, . . . . .	2	114	57-00	-	-	-	16	975	60-94
Wharfingers, . . . . .	2	114	57-00	-	-	-	19	893	46-70
VII. EMPLOYED ON THE OCEAN, . . . . .									
Fishermen, . . . . .	298	13,147	44-00	1	22	22-00	5,817	203,624	45-32
Marines, . . . . .	11	530	48-18	-	-	-	181	7,104	39-24
Naval Officers, . . . . .	4	45	45-00	-	-	-	8	125	41-66
Pilots, . . . . .	6	181	45-25	-	-	-	28	1,401	50-04
Seamen, . . . . .	276	277	46-16	-	-	-	53	3,129	59-04
		12,114	43-89	1	22	22-00	5,552	231,865	45-86
VIII. MERCHANTS, FINANCIERS, AGENTS, &c., . . . . .									
Agents, . . . . .	569	29,458	51-77	121	5,239	43-30	8,639	416,851	48-25
Bankers, . . . . .	11	546	49-64	2	87	43-50	88	4,289	46-17
Bank Officers, . . . . .	1	60	60-00	-	-	-	21	1,114	53-05
Boarding-house keepers, . . . . .	1	39	39-00	2	141	70-50	75	4,076	54-35
Booksellers, . . . . .	3	152	50-66	-	-	-	33	1,533	46-45
Brokers, . . . . .	2	108	54-00	-	-	-	54	2,743	50-79
Clerks, . . . . .	11	588	51-09	1	29	29-00	108	5,090	47-13
Druggists, . . . . .	137	6,324	46-16	39	1,087	27-87	1,619	55,884	34-52
Gentlemen, . . . . .	8	332	41-50	-	-	-	122	4,869	40-16
Grocers, . . . . .	66	4,607	69-80	7	437	62-43	915	60,427	66-04
Importers, . . . . .	17	898	52-82	7	245	35-00	238	11,461	48-16
Iron-keepers, . . . . .	6	290	48-33	4	189	47-25	307	15,229	49-58
Manufacturers, . . . . .	43	2,257	52-48	21	1,239	59-00	776	37,660	48-53
Merchants, . . . . .	127	6,887	54-15	23	1,015	44-13	2,230	117,681	52-78

TABLE XI.—Concluded.

OCCUPATIONS.	NINE EASTERN COUNTIES, 1865.				FIVE WESTERN COUNTIES, 1865.				WHOLE STATE, Twenty-two Years and Eight Months From May 1, 1842, to Dec. 31, 1864.			
	Number of Persons.		AGE.		Number of Persons.	AGE.	Aggregate.	Average.	Number of Persons.	AGE.	Aggregate.	Average.
			Aggregate.	Average.								
Railroad Agents and Conductors,	5		197	39.80	1	27		27.00	148		5,739	38.78
Saloon and Restaurant Keepers,	10		362	36.20	1	32		32.00	133		5,579	41.95
Stove-dealers, . . . . .	—		—	—	—	—		—	8		386	42.00
Ticket-masters, . . . . .	1		59	59.00	—	—		—	12		600	50.00
Traders, . . . . .	120		5,772	48.10	13	711		54.69	1,752		82,618	47.16
IX. PROFESSIONAL MEN,												
Architects, . . . . .	157		7,887	50.23	59	2,758		46.75	3,115		156,334	50.18
Artists, . . . . .	3		178	59.83	1	27		27.00	5		238	47.60
Civil Engineers, . . . . .	10		421	42.10	4	113		28.25	89		4,144	46.56
Clergymen, . . . . .	1		66	66.00	2	73		36.50	63		2,621	41.60
Comedians, . . . . .	26		1,437	55.27	9	514		57.11	555		31,806	57.31
Dentists, . . . . .	2		70	35.00	—	—		—	22		899	40.86
Editors, . . . . .	6		288	48.00	—	—		—	64		2,561	40.01
Judges and Justices, . . . . .	1		41	41.00	—	—		—	38		1,729	45.50
Lawyers, . . . . .	—		—	—	—	—		—	10		646	64.60
Musicians, . . . . .	25		1,380	55.20	4	303		75.75	428		24,150	56.43
Physicians, . . . . .	3		161	53.66	8	108		36.00	146		5,795	39.69
Professors, . . . . .	37		1,958	53.92	15	898		59.53	783		43,531	55.60
Public Officers, . . . . .	2		87	43.50	—	—		—	25		1,364	54.56
Students, . . . . .	15		798	53.20	5	270		54.00	294		15,284	53.81
Surveyors, . . . . .	12		296	24.66	12	248		20.67	193		4,546	23.55
Teachers, . . . . .	2		122	61.00	1	82		82.00	60		2,990	49.83
	12		584	48.66	3	127		20.65	350		14,031	40.09

X. FEMALES,	105	5,210	49-02	81	3,054	37-70	8,943	170,096	45-57
Domestics, .	19	926	48-74	9	279	31-00	340	15,876	49-64
Dressmakers, .	4	218	54-50	6	217	36-16	138	5,761	41-75
Housekeepers, .	29	1,705	58-80	12	758	68-17	2,308	116,162	50-33
Milliners, .	4	147	36-75	1	32	32-00	77	3,008	39-07
Nurses, .	8	547	68-37	8	151	50-38	56	3,422	61-11
Operatives, .	6	225	37-50	16	364	22-75	447	12,488	27-98
Seamstresses, .	6	323	53-83	12	575	47-91	175	8,030	45-88
Shoe-binders, .	-	-	-	-	-	-	33	1,479	41-79
Straw-braiders, .	-	-	-	-	-	-	28	1,044	37-28
Straw-sewers, .	1	25	25-00	2	42	21-00	17	595	35-00
Tailoresses, .	8	303	37-85	4	233	54-75	142	6,398	45-06
Teachers, .	20	791	39-55	16	413	25-81	182	5,433	29-85



TABLE XII.—GENERAL ABSTRACT

*Exhibiting the Number of Births, Marriages, and Deaths, registered in the 1856-65,—in connection with the Population, according to the United and of Persons who died ;—also showing the ratios of the annual average*

THE STATE AND COUNTIES.	Population. U. S. Census June 1, 1860.	BIRTHS.					
		Persons.	SEX.			RATIO.	
			Males.	Females.	Unk.	Births to 100 Persons living.	Persons living to one Birth.
MASSACHUSETTS,	1,231,066	334,493	171,584	161,715	1194	2-72	37
BARNSTABLE, . .	35,990	7,939	4,127	3,746	66	2-21	45
BERKSHIRE, . .	55,120	13,758	7,090	6,598	70	2-50	40
BRISTOL, . . .	93,794	24,926	12,880	11,878	168	2-66	38
DUKES, . . .	4,408	839	413	412	14	1-90	53
ESSEX, . . .	165,611	44,157	22,665	21,302	190	2-67	38
FRANKLIN, . .	31,434	7,167	3,614	3,498	55	2-28	44
HAMPDEN, . .	57,866	15,748	8,120	7,579	49	2-75	36
HAMPSHIRE, . .	37,823	9,055	4,651	4,364	40	2-39	42
MIDDLESEX, . .	216,354	59,693	30,461	28,993	239	2-76	36
NANTUCKET, . .	6,094	872	473	398	1	1-43	70
NORFOLK, . . .	109,950	30,621	15,787	14,776	58	2-79	36
PLYMOUTH, . .	64,768	16,395	8,366	7,958	71	2-53	40
SUFFOLK, . . .	192,700	59,493	30,510	28,964	19	3-09	32
WORCESTER, . .	159,659	43,830	22,427	21,249	154	2-75	36

## FOR THE TEN YEARS—1856-65.

*several Counties and Towns of Massachusetts, during the Ten Years, States Census of June 1, 1860,—distinguishing the Sex of Children Born number of Births, Marriages, and Deaths, to the given Population.*

MARRIAGES.			DEATHS.					
Persons.	RATIO.		Persons.	SEX.			RATIO.	
	Marriages to 100 Persons.	Persons living to one Marriage.		Males.	Females.	Unk.	Deaths to 100 Persons living.	Persons living to one Death.
116,940	·95	105	236,519	119,357	116,450	712	1·92	52
2,997	·83	120	5,973	3,110	2,831	32	1·66	60
4,572	·83	121	8,972	4,587	4,385	50	1·63	61
8,139	·87	115	17,639	8,945	8,638	56	1·88	53
367	·83	120	715	372	343	—	1·62	62
15,667	·94	106	31,409	15,641	15,643	125	1·90	53
2,520	·80	125	5,650	2,836	2,773	41	1·80	56
6,938	1·21	83	11,653	5,944	5,651	58	2·03	49
3,177	·84	119	7,174	3,504	3,585	85	1·90	53
18,585	·86	116	39,284	19,782	19,409	93	1·81	55
580	·95	105	1,153	514	637	2	1·89	53
8,158	·74	135	18,878	9,370	9,456	52	1·72	58
5,001	·77	130	12,043	6,582	6,327	34	2·00	50
25,627	1·33	75	45,070	23,948	22,015	7	2·33	43
14,612	·92	109	30,006	15,172	14,757	77	1·88	53

TABLE XII.—General Abstract

Counties and Towns.	Population. U. S. Census. June 1, 1860.	BIRTHS.					
		Persons.	Sex.			Ratio.	
			Males.	Females.	Unk.	Births to 100 Persons living.	Persons living to one Birth.
BARNSTABLE Co., .	35,950*	7,939	4,127	3,746	66	2.21	45
Barnstable, . . .	5,129	690	353	336	1	1.35	74
Brewster, . . .	1,489	337	164	155	18	2.25	44
Chatham, . . .	2,710	637	353	304	—	2.43	41
Dennis, . . .	3,662	904	447	455	2	2.46	41
Eastham, . . .	779	175	102	73	—	2.25	45
Falmouth, . . .	2,456	876	192	178	6	1.53	65
Harwich, . . .	3,423	990	542	447	1	2.89	35
Orleans, . . .	1,678	302	167	129	6	1.80	56
Provincetown, . .	3,206	974	506	466	2	3.04	33
Sandwich, . . .	4,479	1,076	565	510	1	2.40	42
Truro, . . .	1,583	455	234	221	—	2.87	35
Wellfleet, . . .	2,322	455	210	221	24	1.96	51
Yarmouth, . . .	2,752	548	292	251	5	1.99	52
 BERKSHIRE COUNTY,	 55,120	 13,758	 7,090	 6,598	 70	 2.50	 40
Adams, . . .	6,924	2,185	1,174	1,005	6	3.15	32
Alford, . . .	542	89	45	44	—	1.84	54
Becket, . . .	1,578	448	236	211	1	2.84	35
Cheshire, . . .	1,533	313	162	151	—	2.04	49
Clarksburg, . . .	420	108	63	45	—	2.57	39
Dalton, . . .	1,243	275	145	130	—	2.21	45
Egremont, . . .	1,079	185	96	89	—	1.71	58
Florida, . . .	645	216	103	111	2	3.34	30
Great Barrington, .	3,871	984	491	492	1	2.54	39
Hancock, . . .	816	109	52	57	—	1.34	75
Hinsdale, . . .	1,511	357	175	172	10	2.36	42
Lanesborough, . .	1,308	323	153	170	—	2.47	41
Lee, . . .	4,420	989	504	481	4	2.24	45
Lenox, . . .	1,711	483	260	222	1	2.82	35
Monterey, . . .	758	154	92	60	2	2.03	49
Mount Washington, .	321	65	36	29	—	2.02	49
New Ashford, . . .	289	48	24	24	—	2.01	50
New Marlborough, .	1,782	395	191	204	—	2.22	45
Otis, . . .	998	190	112	78	—	1.90	53
Peru, . . .	499	72	43	29	—	1.45	69
Pittsfield, . . .	8,045	2,459	1,256	1,195	8	3.06	33
Richmond, . . .	914	183	83	98	2	2.00	50
Sandisfield, . . .	1,585	311	173	137	1	1.96	51
Savoy, . . .	904	188	100	87	1	2.08	48
Sheffield, . . .	2,621	676	362	312	2	2.58	39
Stockbridge, . . .	2,136	439	216	221	2	2.06	49
Tyringham, . . .	730	159	78	80	1	2.18	46

\* Including 322 in Marshpee.

1865.]

## GENERAL ABSTRACT.

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for Ten Years—Continued.

MARRIAGES.			DEATHS.					
Persons.	RATIO.		Persons.	SEX.			RATIO.	
	Marriages to 100 Persons.	Persons living to one Marriage.		Males.	Females.	Unk.	Deaths to 100 Persons living.	Persons living to one Death.
2,997	·83	120	5,973	3,110	2,831	32	1·66	60
409	·80	125	494	264	230	—	·96	104
105	·70	142	216	92	122	2	1·45	69
230	·85	118	480	254	225	1	1·77	56
287	·78	128	589	322	265	2	1·61	62
62	·79	126	137	61	76	—	1·76	57
176	·72	139	406	212	194	—	1·65	60
433	1·26	79	648	349	293	6	1·89	53
134	·80	125	347	176	163	8	2·07	48
321	1·00	100	690	355	335	—	2·15	46
347	·78	129	807	428	379	—	1·80	55
160	1·01	99	306	150	156	—	1·93	52
147	·63	158	394	198	186	10	1·70	59
186	·68	148	459	249	207	3	1·67	60
4,572	·83	121	8,972	4,537	4,385	50	1·63	61
682	·98	102	1,216	644	569	3	1·76	57
19	·85	285	60	28	32	—	1·11	90
78	·50	202	210	105	105	—	1·33	75
81	·53	189	158	77	81	—	1·03	97
37	·88	114	58	25	33	—	1·38	72
74	·59	168	192	94	98	—	1·55	65
74	·68	146	143	83	60	—	1·33	75
50	·78	129	95	52	43	—	1·50	67
324	·84	119	647	336	311	—	1·69	59
22	·27	371	77	39	38	—	·94	106
102	·67	149	269	123	141	5	1·78	56
88	·67	149	195	107	84	4	1·49	67
179	1·08	92	805	394	409	2	1·82	55
68	·52	194	261	128	133	—	1·53	66
43	·57	176	136	70	66	—	1·80	56
11	·34	292	47	26	21	—	1·46	68
20	·84	120	80	20	9	1	1·25	80
142	·79	126	824	464	359	1	1·82	55
79	·79	126	165	88	76	1	1·65	61
96	·72	139	55	24	31	—	1·10	91
1,085	1·35	74	1,472	736	717	19	1·88	55
80	·33	805	129	66	58	5	1·41	71
105	·66	151	211	103	104	4	1·33	75
78	·86	116	137	78	59	—	1·52	66
194	·74	135	515	249	266	—	1·96	51
152	·71	140	339	162	177	—	1·59	63
53	·72	138	140	69	71	—	1·92	52

TABLE XII.—General Abstract

Counties and Towns.	Population. U. S. Census June 1, 1860.	BIRTHS.					
		Persons.	Sex.			Ratio.	
			Males.	Females.	Unk.	Births to 100 Persons living.	Persons living to one Birth.
<i>Berkshire—Con.</i>							
Washington, . . .	948	171	80	91	—	1.80	55
West Stockbridge, . .	1,589	506	276	230	—	3.18	31
Williamstown, . . .	2,611	597	264	316	17	2.29	44
Windsor, . . .	839	81	45	27	9	.96	104
<b>BRISTOL COUNTY, .</b>	<b>93,794</b>	<b>24,926</b>	<b>12,880</b>	<b>11,878</b>	<b>168</b>	<b>2.66</b>	<b>38</b>
Acushnet,* . . .	1,387	145	78	64	3	1.74	57
Attleborough, . . .	6,066	2,814	1,454	1,355	5	4.62	22
Berkley, . . .	825	135	64	70	1	1.64	61
Dartmouth, . . .	3,883	798	415	382	1	2.05	49
Dighton, . . .	1,733	373	198	170	5	2.15	47
Easton, . . .	3,067	1,013	530	483	—	3.30	30
Fairhaven, . . .	3,118	774	392	381	1	2.48	40
Fall River, . . .	14,026	4,734	2,444	2,280	10	3.38	30
Freetown, . . .	1,521	351	195	151	5	2.31	43
Mansfield, . . .	2,114	475	223	242	10	2.25	45
New Bedford, . . .	22,300	5,421	2,792	2,520	109	2.43	41
Norton, . . .	1,848	377	209	167	1	2.04	49
Pawtucket,† . . .	4,200	701	373	327	1	—	—
Raynham, . . .	1,746	505	264	238	3	2.73	35
Rehoboth, . . .	1,932	351	181	168	2	1.82	55
Seekonk, . . .	2,662	429	222	207	—	1.61	62
Somerset, . . .	1,793	658	346	307	—	3.63	28
Swansey, . . .	1,430	262	140	121	1	1.83	55
Taunton, . . .	15,376	3,975	2,018	1,950	7	2.58	39
Westport, . . .	2,767	640	342	295	3	2.31	43
<b>DUKES COUNTY, .</b>	<b>4,408</b>	<b>839</b>	<b>413</b>	<b>412</b>	<b>14</b>	<b>1.90</b>	<b>53</b>
Chilmark, . . .	654	125	60	62	3	1.91	52
Edgartown, . . .	2,118	362	171	183	8	1.71	59
Gosnold,‡ . . .	—	2	1	1	—	—	—
Tisbury, . . .	1,631	350	181	166	3	2.15	47
<b>ESSEX COUNTY, .</b>	<b>165,611</b>	<b>44,157</b>	<b>22,665</b>	<b>21,302</b>	<b>190</b>	<b>2.67</b>	<b>38</b>
Amesbury, . . .	3,877	1,058	532	515	11	2.73	37
Andover, . . .	4,765	1,205	610	595	—	2.53	39
Beverly, . . .	6,154	1,350	727	623	—	2.19	46
Boxford, . . .	1,020	178	101	77	—	1.74	57
Bradford, . . .	1,688	381	204	175	2	2.26	44
Danvers, . . .	5,110	1,457	700	756	1	2.85	35

\* Six years only; the previous years included with Fairhaven.

† Five years only. Annexed April 10, 1861, to Rhode Island.

‡ Incorporated March 17, 1864.

*for Ten Years—Continued.*

MARRIAGES.			DEATHS.					
Persons.	Ratio.		Persons.	Sex.			Ratio.	
	Marriages to 100 Persons.	Persons living to one Marriage.		Males.	Females.	Unk.	Deaths to 100 Persons living.	Persons living to one Death.
46	·49	206	126	57	69	—	1·33	75
77	·49	206	264	153	111	—	1·67	60
165	·63	158	427	201	222	4	1·63	61
58	·69	145	69	36	32	1	·82	122
8,139	·87	115	17,639	8,945	8,638	56	1·88	53
64	·77	130	156	69	87	—	1·88	53
406	·67	149	1,330	660	670	—	2·19	46
54	·65	153	165	84	79	2	2·00	50
294	·76	132	626	341	285	—	1·61	62
129	·75	134	262	132	130	—	1·51	66
194	·63	158	560	298	262	—	1·82	55
215	·69	145	568	300	268	—	1·82	55
1,503	1·07	93	3,718	1,834	1,876	8	2·63	38
121	·79	126	293	144	148	1	1·93	52
168	·79	126	317	142	167	8	1·50	67
2,624	1·18	85	4,159	2,085	2,046	28	1·87	54
114	·62	162	293	146	147	—	1·58	63
165	—	—	362	189	173	—	—	—
105	·60	166	318	170	148	—	1·82	55
125	·65	155	373	183	190	—	1·93	52
127	·48	210	294	125	169	—	1·11	90
93	·52	193	352	180	172	—	1·96	51
111	·78	129	188	91	97	—	1·31	76
1,384	·90	111	2,886	1,554	1,329	3	1·88	53
143	·52	194	419	218	195	6	1·52	66
367	·83	120	715	372	343	—	1·62	62
50	·76	181	85	38	47	—	1·80	77
155	·73	137	278	143	135	—	1·32	76
1	—	—	2	1	1	—	—	—
161	·99	101	350	190	160	—	2·16	47
15,667	·94	106	31,409	15,641	15,643	125	1·90	53
274	·71	141	658	314	343	1	1·70	59
382	·80	125	904	448	454	2	1·90	53
560	·91	110	1,093	540	553	—	1·78	56
63	·62	162	140	73	67	—	1·37	73
107	·63	158	271	131	140	—	1·61	62
387	·76	132	928	456	470	2	1·81	55

TABLE XII.—General Abstract

Counties and Towns.	Population. U. S. Census June 1, 1860.	BIRTHS.					
		Persons.	Sex.			Ratio.	
			Males.	Females.	Unk.	Births to 100 Persons Living.	Persons living to one Birth.
<i>Essex—Con.</i>							
Essex, . . . . .	1,701	484	233	190	11	2-55	39
Georgetown, . . . . .	2,075	439	232	206	1	2-11	47
Gloucester, . . . . .	10,904	3,893	2,014	1,876	3	3-57	28
Groveland, . . . . .	1,448	320	157	163	—	2-21	45
Hamilton, . . . . .	789	159	74	83	2	2-02	50
Haverhill, . . . . .	9,995	2,646	1,336	1,308	2	2-65	38
Ipswich, . . . . .	3,300	645	321	324	—	1-95	51
Lawrence, . . . . .	17,639	5,797	2,963	2,829	5	3-29	30
Lynn, . . . . .	19,083	5,634	2,866	2,762	6	2-95	34
Lynnfield, . . . . .	866	157	83	74	—	1-81	55
Manchester, . . . . .	1,698	467	231	235	1	2-75	36
Marblehead, . . . . .	7,646	2,316	1,205	1,030	81	3-03	33
Methuen, . . . . .	2,566	563	289	274	—	2-19	46
Middleton, . . . . .	940	218	133	85	—	2-32	43
Nahant, . . . . .	380	100	47	53	—	2-63	38
Newbury, . . . . .	1,444	290	159	131	—	2-01	50
Newburyport, . . . . .	13,401	3,427	1,823	1,602	2	2-56	39
North Andover, . . . . .	2,343	545	278	267	—	2-33	43
Rockport, . . . . .	3,237	1,043	524	515	4	3-22	31
Rowley, . . . . .	1,278	281	131	128	22	2-20	46
Salem, . . . . .	22,252	4,640	2,385	2,240	15	2-08	48
Salisbury, . . . . .	3,310	758	377	381	—	2-29	44
Saugus, . . . . .	2,024	481	255	212	14	2-38	42
South Danvers, . . . . .	6,549	1,906	979	927	—	2-92	34
Swampscott, . . . . .	1,530	390	194	196	—	2-55	39
Topsfield, . . . . .	1,292	282	138	142	2	2-18	46
Wenham, . . . . .	1,105	242	121	117	4	2-19	46
West Newbury, . . . . .	2,202	455	243	211	1	2-07	48
FRANKLIN COUNTY, .							
Ashfield, . . . . .	1,302	247	123	122	2	1-90	53
Bernardston, . . . . .	968	148	75	73	—	1-53	65
Buckland, . . . . .	1,702	594	342	252	—	3-48	29
Charlemont, . . . . .	1,075	185	81	104	—	1-72	58
Colrain, . . . . .	1,798	350	162	186	2	1-95	51
Conway, . . . . .	1,689	377	174	187	16	2-23	45
Deerfield, . . . . .	3,073	922	457	464	1	3-00	33
Erving, . . . . .	527	133	65	68	—	2-52	40
Gill, . . . . .	683	119	61	58	—	1-74	57
Greenfield, . . . . .	3,198	886	464	420	2	2-77	36
Hawley, . . . . .	671	143	72	71	—	2-13	47
Heath, . . . . .	661	123	44	77	2	1-86	54
Leverett, . . . . .	964	151	95	56	—	1-57	64
Leyden, . . . . .	606	152	73	79	—	2-51	40
Monroe, . . . . .	236	55	23	32	—	2-33	43

1865.]

## GENERAL ABSTRACT.

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for Ten Years—Continued.

MARRIAGES.			DEATHS.					
Persons.	Ratio.		Persons.	Sex.			Ratio.	
	Marriages to 100 Persons.	Persons living to one Marriage.		Males.	Females.	Unk.	Deaths to 100 Persons living.	Persons living to one Death.
125	·74	136	307	152	153	2	1·81	55
107	·52	194	323	168	149	6	1·64	61
1,402	1·28	78	2,643	1,479	1,161	3	2·43	41
103	·71	141	272	122	147	3	1·88	53
64	·81	123	149	78	71	—	1·89	53
1,134	1·14	88	1,494	716	776	2	1·49	67
251	·76	132	546	256	290	—	1·68	60
2,341	1·33	75	4,127	2,046	2,036	45	2·37	44
1,578	·83	121	3,586	1,729	1,847	10	1·88	53
58	·87	150	150	76	73	1	1·97	51
114	·67	149	332	161	171	—	1·96	51
792	1·04	97	1,584	838	745	1	2·08	48
211	·77	130	390	192	197	1	1·52	66
54	·57	174	138	82	56	—	1·47	68
10	2·63	38	51	27	24	—	1·84	75
105	1·27	79	264	141	123	—	1·83	55
1,596	1·19	84	2,153	1,009	1,141	3	1·61	63
157	·67	149	364	186	174	4	1·55	65
331	1·02	98	659	345	310	4	2·04	49
108	·85	118	247	115	130	2	1·93	52
2,098	·94	106	4,522	2,206	2,306	10	2·03	49
320	·97	103	656	312	344	—	1·98	51
127	·63	159	342	177	146	19	1·69	59
328	·50	200	1,112	565	547	—	1·70	59
102	·67	150	256	127	129	—	1·67	60
92	·71	140	204	112	91	1	1·58	63
75	·68	147	170	84	83	3	1·54	65
111	·51	198	374	178	196	—	1·70	59
2,520	·80	125	5,650	2,836	2,778	41	1·80	56
75	·58	174	226	114	112	—	1·74	58
94	·97	103	165	88	97	—	1·70	59
102	·60	167	344	185	154	5	2·02	50
80	·75	134	174	93	81	—	1·62	62
171	·95	105	304	145	159	—	1·69	59
167	·99	101	307	145	153	9	1·82	55
177	·57	174	579	322	257	—	1·88	53
46	·87	115	102	51	50	1	1·94	52
72	1·05	95	108	50	58	—	1·58	63
397	1·23	81	600	308	283	9	1·88	53
53	·79	127	94	44	50	—	1·40	71
39	·50	200	111	57	54	—	1·68	60
38	·60	166	190	94	96	—	1·97	51
38	·63	160	108	53	50	—	1·78	56
22	·93	107	29	16	13	—	1·23	81



TABLE XII.—General Abstract

Counties and Towns.	Population. U. S. Census June 1, 1860.	BIRTHS.					
		Persons.	Sex.			Ratio.	
			Males.	Females.	Unk.	Births to 100 Persons living.	Persons living to one Birth.
<i>Franklin—Con.</i>							
Montague, . . .	1,593	292	153	139	—	1-83	55
New Salem, . . .	957	185	96	87	2	1-93	52
Northfield, . . .	1,712	358	177	157	24	2-09	43
Orange, . . .	1,622	334	163	168	3	2-06	49
Rowe, . . .	619	110	49	61	—	1-78	56
Shelburne, . . .	1,448	414	205	209	—	2-86	35
Shutesbury, . . .	798	178	87	91	—	2-23	45
Sunderland, . . .	839	164	78	86	—	1-95	51
Warwick, . . .	932	190	98	91	1	2-04	49
Wendell, . . .	704	94	43	51	—	1-33	75
Whately, . . .	1,057	263	154	109	—	2-49	40
<b>HAMPDEN COUNTY, .</b>	<b>57,366</b>	<b>15,748</b>	<b>8,120</b>	<b>7,579</b>	<b>49</b>	<b>2-75</b>	<b>36</b>
Agawam, . . .	1,698	389	194	190	5	2-29	44
Blandford, . . .	1,256	215	105	109	1	1-71	58
Brimfield, . . .	1,363	245	126	118	1	1-80	56
Chester, . . .	1,314	184	90	94	—	1-40	71
Chicopee, . . .	7,261	1,983	1,006	975	2	2-73	37
Granville, . . .	1,385	295	142	152	1	2-13	47
Holland, . . .	419	101	54	47	—	2-39	42
Holyoke, . . .	4,997	1,457	756	698	3	2-92	34
Longmeadow, . . .	1,376	343	168	175	—	2-49	40
Ludlow, . . .	1,174	306	150	155	1	2-60	38
Monson, . . .	3,164	558	301	252	5	1-76	57
(State Almshouse,) . . .	—	201	95	106	—	—	—
Montgomery, . . .	371	86	50	36	—	2-32	43
Palmer, . . .	4,082	1,046	559	487	—	2-56	39
Russell, . . .	605	146	83	63	—	2-42	41
Southwick, . . .	1,188	213	114	98	1	1-80	56
Springfield, . . .	15,199	5,373	2,786	2,579	8	3-53	28
Tolland, . . .	596	109	59	49	1	1-83	55
Wales, . . .	677	120	66	54	—	1-77	56
Westfield, . . .	5,055	1,303	665	626	12	2-58	39
West Springfield, . . .	2,105	587	306	278	3	2-79	36
Wilbraham, . . .	2,081	488	245	238	5	2-35	43
<b>HAMPSHIRE COUNTY, .</b>	<b>37,823</b>	<b>9,055</b>	<b>4,651</b>	<b>4,364</b>	<b>40</b>	<b>2-39</b>	<b>42</b>
Amherst, . . .	3,206	670	346	324	—	2-09	48
Belchertown, . . .	2,709	523	292	229	2	1-93	52
Chesterfield, . . .	897	189	71	97	1	1-88	53
Cummington, . . .	1,085	211	106	105	—	1-95	51
Easthampton, . . .	1,916	435	223	209	3	2-27	44
Enfield, . . .	1,025	156	80	76	—	1-52	66

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## GENERAL ABSTRACT.

CXXIX

for Ten Years—Continued.

MARRIAGES.			DEATHS.					
Persons.	Ratio.		Persons.	Sex.			Ratio.	
	Marriages to 100 Persons.	Persons living to one Marriage.		Males.	Females.	Unk.	Deaths to 100 Persons living.	Persons living to one Death.
110	74	136	258	125	131	2	1.62	62
90	94	106	195	99	94	2	2.04	49
116	68	148	300	148	148	9	1.75	58
144	88	113	306	141	165	—	1.89	53
31	50	200	84	46	38	—	1.36	74
140	97	103	278	131	147	—	1.92	52
67	84	119	143	68	74	1	1.79	56
52	62	161	163	88	75	—	1.94	52
68	73	137	165	75	87	3	1.77	57
54	77	130	113	53	66	—	1.61	62
63	60	168	204	112	92	—	1.93	52
6,938	1.21	83	11,653	5,944	5,651	58	2.03	49
122	72	139	280	137	141	2	1.65	61
89	71	141	203	105	96	2	1.62	62
97	71	141	273	145	127	1	2.00	50
78	59	169	142	77	65	—	1.08	93
1,427	1.96	51	1,561	788	777	1	2.15	47
99	72	139	260	117	141	2	1.88	53
38	91	110	82	43	38	3	1.96	51
1,040	2.08	48	747	391	354	2	1.49	67
110	80	125	271	128	142	1	1.97	51
85	72	138	190	87	94	9	1.62	62
196	62	161	444	204	237	3	1.40	71
—	—	—	635	380	254	1	—	—
22	59	169	75	32	43	—	2.02	50
358	88	114	464	236	225	3	1.14	88
46	76	132	109	46	63	—	1.80	56
68	57	175	207	109	98	—	1.74	57
2,186	1.44	69	3,589	1,873	1,714	2	1.08	97
25	42	238	91	48	42	1	1.53	66
62	92	109	115	60	55	—	1.56	180
520	1.03	97	1,106	545	547	14	2.19	46
117	56	180	431	209	218	4	2.05	49
153	74	136	878	189	182	7	1.82	55
3,177	84	119	7,174	3,504	3,585	85	1.90	53
265	83	121	563	302	261	—	1.76	57
209	77	130	458	217	228	13	1.69	59
74	83	121	157	70	86	1	1.75	57
102	94	106	166	89	76	1	1.53	65
134	70	143	377	174	200	3	1.97	51
74	72	139	233	111	110	12	2.27	44

TABLE XII.—General Abstract

Counties and Towns.	Population. U. S. Census June 1, 1860.	BIRTHS.					
		Persons.	Sex.			Ratio.	
			Males.	Females.	Unk.	Births to 100 Persons living.	Persons living to one Birth.
<i>Hampshire—Con.</i>							
Goshen, . . . . .	439	84	48	36	—	1.91	52
Granby, . . . . .	907	200	100	95	5	2.21	45
Greenwich, . . . . .	699	111	56	55	—	1.59	63
Hadley, . . . . .	2,105	554	265	285	4	2.63	38
Hatfield, . . . . .	1,337	410	209	200	1	3.07	33
Huntington, . . . . .	1,216	209	118	91	—	1.72	58
Middlefield, . . . . .	748	190	92	93	5	2.54	39
Northampton, . . . . .	6,788	2,255	1,181	1,070	4	3.32	30
Pelham, . . . . .	748	44	26	18	—	.59	170
Plainfield, . . . . .	639	101	54	46	1	1.53	63
Prescott, . . . . .	611	95	49	45	1	1.56	64
South Hadley, . . . . .	2,277	609	316	285	8	2.67	37
Southampton, . . . . .	1,130	267	138	127	2	2.36	42
Ware, . . . . .	3,597	839	421	417	1	2.33	43
Westhampton, . . . . .	608	166	81	83	2	2.73	37
Williamsburg, . . . . .	2,095	576	289	287	—	2.75	36
Worthington, . . . . .	1,041	181	90	91	—	1.74	58
MIDDLESEX COUNTY,	216,354	59,693	30,461	28,993	239	2.76	36
Acton, . . . . .	1,726	408	216	178	4	2.36	42
Ashby, . . . . .	1,091	186	88	97	1	1.70	59
Ashland, . . . . .	1,554	407	221	184	2	2.62	38
Bedford, . . . . .	843	197	105	92	—	2.34	43
Belmont,* . . . . .	1,198	213	101	112	—	2.54	39
Billerica, . . . . .	1,776	344	173	171	—	1.94	52
Boxborough, . . . . .	403	85	39	45	1	2.11	47
Brighton, . . . . .	3,375	949	491	441	17	2.81	36
Burlington, . . . . .	606	134	73	61	—	2.21	45
Cambridge, . . . . .	26,060	8,789	4,521	4,229	39	3.38	30
Carlisle, . . . . .	621	146	69	77	—	2.35	43
Charlestown, . . . . .	25,065	7,136	3,683	3,451	2	2.85	35
Chelmsford, . . . . .	2,291	592	318	274	—	2.58	39
Concord, . . . . .	2,246	445	240	193	12	1.98	51
Dracut, . . . . .	1,881	502	259	243	—	2.67	38
Dunstable, . . . . .	487	62	40	22	—	1.27	79
Framingham, . . . . .	4,227	1,012	535	476	1	2.39	42
Groton, . . . . .	3,193	879	478	400	1	2.75	36
Holliston, . . . . .	3,339	808	421	384	3	2.42	41
Hopkinton, . . . . .	4,340	1,928	968	958	2	1.44	23
Hudson,† . . . . .	—	—	—	—	—	—	—
Lexington, . . . . .	2,329	529	252	277	—	2.27	44
Lincoln, . . . . .	718	168	88	80	—	2.34	43
Littleton, . . . . .	1,063	265	136	125	4	2.49	40
Lowell, . . . . .	36,827	8,597	4,278	4,264	55	2.84	43
Malden, . . . . .	5,865	1,660	881	776	3	2.83	35

\* Seven years only.

† Incorporated March 19, 1866.

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## GENERAL ABSTRACT.

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*for Ten Years—Continued.*

MARRIAGES.			DEATHS.					
Persons.	RATIO.		Persons.	SEX.			RATIO.	
	Marriages to 100 Persons.	Persons living to one Marriage.		Males.	Females.	Unk.	Deaths to 100 Persons living.	Persons living to one Death.
84	·78	129	89	46	42	1	2·03	49
73	·81	124	164	72	86	6	1·81	55
55	·79	127	162	77	85	—	2·32	48
122	·58	173	464	218	239	7	2·20	45
53	·40	252	254	117	136	1	1·90	53
115	·95	105	154	76	76	2	1·27	79
63	·85	118	96	48	48	—	1·28	78
692	1·02	98	1,430	698	711	21	2·11	48
63	·84	119	97	45	52	—	1·80	77
59	·98	108	112	47	65	—	1·75	57
52	·85	118	79	40	39	—	1·30	77
153	·67	149	398	201	188	4	1·72	58
74	·65	153	276	135	140	1	2·44	41
469	1·30	77	810	416	387	7	2·25	44
84	·56	179	124	57	67	—	2·04	49
145	·69	145	862	183	179	—	1·78	58
63	·61	165	154	65	84	5	1·48	68
18,585	·86	116	39,284	19,782	19,409	93	1·81	55
135	·78	128	310	181	128	1	1·80	56
74	·68	147	237	121	115	1	2·17	46
108	·69	144	312	172	140	—	2·01	50
49	·58	172	158	80	76	2	1·87	53
44	·53	191	111	46	65	—	1·32	76
100	·56	178	271	137	134	—	1·53	66
19	·47	212	70	30	38	2	1·74	58
158	·47	214	476	251	221	4	1·41	71
41	·68	148	91	86	55	—	1·50	67
2,586	·99	101	5,179	2,594	2,571	14	1·99	50
89	·63	159	122	60	62	—	1·96	51
2,456	·98	102	5,069	2,587	2,478	4	2·02	49
149	·65	154	328	186	142	—	1·43	70
158	·70	143	335	159	176	—	1·49	67
90	·48	209	291	140	151	—	1·55	65
17	·35	287	86	43	43	—	1·76	57
501	1·18	84	693	357	333	3	1·64	61
268	·84	119	608	310	297	1	1·90	53
186	·56	180	384	183	201	—	1·15	87
197	·45	220	529	265	264	—	1·22	82
—	—	—	—	—	—	—	—	—
125	·54	186	427	204	223	—	1·84	54
31	·43	232	104	45	59	—	1·45	69
76	·71	140	217	109	108	—	2·04	49
4,807	1·25	80	6,961	3,366	3,586	9	1·89	53
485	·74	135	567	444	418	5	1·48	68

TABLE XII.—General Abstract

Counties and Towns.	Population. U. S. Census June 1, 1860.	BIRTHS.					
		Persons.	Sex.			Ratio.	
			Males.	Females.	Unk.	Births to 100 Persons living.	Persons living to one Birth.
<i>Middlesex—Con.</i>							
Marlborough, . . .	5,911	2,256	1,136	1,120	—	3·82	26
Medford, . . .	4,842	1,212	616	592	4	2·50	40
Malrose, . . .	2,532	654	323	321	10	2·58	39
Natick, . . .	5,515	1,938	966	971	1	3·51	29
Newton, . . .	8,382	2,190	1,107	1,083	—	2·61	38
North Reading, . . .	1,203	257	126	131	—	2·14	47
Pepperell, . . .	1,895	377	176	193	8	1·99	30
Reading, . . .	2,662	591	287	300	4	2·22	45
Sherborn, . . .	1,129	198	107	91	—	1·75	57
Shirley, . . .	1,468	329	174	155	—	2·24	45
Somerville, . . .	8,025	2,316	1,204	1,112	—	2·88	35
South Reading, . . .	3,207	718	360	356	2	2·24	45
Stoneham, . . .	3,206	865	442	423	—	2·70	37
Stow, . . .	1,641	393	211	180	2	2·39	42
Sudbury, . . .	1,691	348	171	176	1	2·06	49
Tewksbury, . . .	1,744	284	134	148	2	1·63	61
(State Almshouse,) . . .	—	639	322	317	—	—	—
Townsend, . . .	2,005	448	235	208	5	2·23	45
Tyngsborough, . . .	628	98	57	41	—	1·57	64
Waltham, . . .	6,397	1,640	824	807	9	2·56	39
Watertown, . . .	3,270	1,079	524	553	2	3·30	30
Wayland, . . .	1,188	240	121	119	—	2·02	50
West Cambridge, . . .	2,681	755	375	379	1	2·82	36
Westford, . . .	1,624	363	176	166	21	2·24	45
Weston, . . .	1,243	174	89	85	—	1·40	71
Wilmington, . . .	919	202	82	106	14	2·20	46
Winchester, . . .	1,937	511	275	231	5	2·64	38
Woburn, . . .	6,287	2,177	1,167	1,009	1	3·46	29
NANTUCKET COUNTY,	6,094	872	473	398	1	1·43	70
NORFOLK COUNTY, .	109,950	30,621	15,787	14,776	58	2·79	36
Bellingham, . . .	1,313	271	153	118	—	2·07	48
Braintree, . . .	3,468	870	454	416	—	2·51	40
Brookline, . . .	5,164	1,369	758	594	17	2·65	38
Canton, . . .	3,242	977	476	499	2	3·00	33
Cohasset, . . .	1,953	489	259	228	2	2·51	40
Dedham, . . .	6,330	1,997	1,060	925	3	3·15	32
Dorchester, . . .	9,769	2,691	1,387	1,304	—	2·75	36
Dover, . . .	679	90	46	43	1	1·36	75
Foxborough, . . .	2,879	635	326	304	5	2·21	45
Franklin, . . .	2,172	472	227	245	—	2·17	46
Medfield, . . .	1,082	177	93	84	—	1·64	61
Medway, . . .	3,195	859	455	401	3	2·69	37
Milton, . . .	2,669	738	377	361	—	2·76	36

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## GENERAL ABSTRACT.

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for Ten Years—Continued.

MARRIAGES.			DEATHS.					
Persons.	RATIO.		Persons.	SEX.			RATIO.	
	Marriges to 100 Persons.	Persons living to one Marriage.		Males.	Females.	Unk.	Deaths to 100 Persons living.	Persons living to one Death.
616	.88	115	868	421	446	1	1.47	68
601	1.23	81	712	307	402	3	1.47	68
186	.73	136	400	183	212	5	1.58	63
406	.73	136	894	477	415	2	1.62	62
438	.62	191	980	466	512	2	1.17	86
82	.68	147	166	90	76	-	1.38	73
129	.68	147	354	174	175	5	1.87	54
155	.58	172	471	243	227	1	1.77	57
80	.71	141	136	67	69	-	1.20	83
123	.84	119	251	115	136	-	1.71	58
299	.37	268	1,396	708	687	1	1.74	58
264	.82	122	493	248	245	-	1.54	65
101	.81	317	591	313	278	-	1.84	54
109	.66	151	264	142	121	1	1.61	62
100	.59	169	251	135	116	-	1.48	67
72	.41	242	157	77	76	4	.90	111
-	-	-	1,787	1,034	753	-	-	-
155	-	129	450	206	243	1	2.24	45
28	.41	241	122	65	57	-	1.95	51
434	.68	147	1,148	584	558	6	1.80	56
646	1.98	51	528	260	264	4	1.62	62
65	.55	183	180	97	83	-	1.52	66
153	.57	175	455	226	229	-	1.70	59
114	.70	143	302	172	129	1	1.86	54
68	.55	183	141	66	75	-	1.14	88
69	.75	133	151	64	77	10	1.64	61
88	.45	220	229	118	111	-	1.18	85
457	.72	138	1,171	618	553	-	1.86	54
580	.95	105	1,153	514	637	2	1.89	53
8,158	.74	135	18,878	9,370	9,456	52	1.72	58
83	.63	158	194	91	103	-	1.48	68
202	.58	172	550	278	272	-	1.58	63
454	.88	114	709	339	367	3	1.37	73
207	.64	157	631	301	328	2	1.95	51
188	.96	104	351	173	177	1	1.80	56
302	.57	175	1,233	673	559	1	1.95	51
597	.61	164	1,639	797	839	3	1.68	60
84	.50	200	96	52	44	-	1.41	71
240	.83	120	401	188	211	2	1.39	72
136	.63	160	321	135	185	1	1.48	68
84	.78	129	158	71	87	-	1.46	68
239	.75	134	610	312	297	1	1.91	52
148	.56	180	469	224	244	1	1.76	67

TABLE XII.—*General Abstract*

Counties and Towns.	Population. U. S. Census June 1, 1860.	BIRTHS.					
		Persons.	Sex.			Ratio.	
			Males.	Females.	Unk.	Births to 100 Persons living.	Persons living to one Birth.
<i>Norfolk—Con.</i>							
Needham, . . . . .	2,658	708	344	362	—	2-65	37
Quincy, . . . . .	6,778	2,000	995	1,002	3	2-95	34
Randolph, . . . . .	5,760	1,780	905	874	1	3-09	32
Roxbury, . . . . .	25,137	7,626	3,959	3,666	1	3-03	33
Sharon, . . . . .	1,877	302	150	150	2	2-19	46
Stoughton, . . . . .	4,830	1,678	868	808	2	3-47	29
Walpole, . . . . .	2,037	440	226	211	3	2-16	46
West Roxbury, . . . . .	6,310	1,479	762	717	—	2-34	43
Weymouth, . . . . .	7,742	2,388	1,196	1,182	5	3-08	32
Wrentham, . . . . .	3,406	592	302	282	8	1-74	58
PLYMOUTH COUNTY,	64,768	16,395	8,366	7,958	71	2-53	40
Abington, . . . . .	8,527	2,708	1,369	1,335	4	3-17	31
Bridgewater, . . . . .	3,761	873	459	409	5	2-33	43
(State Almshouse,) . . . . .	—	538	262	276	—	—	—
Carver, . . . . .	1,186	214	123	91	—	1-81	55
Duxbury, . . . . .	2,597	477	236	226	15	1-84	54
East Bridgewater, . . . . .	3,207	760	394	366	—	2-37	42
Halifax, . . . . .	766	133	64	67	2	1-74	58
Hanover, . . . . .	1,565	348	167	181	—	2-22	45
Hanson, . . . . .	1,245	275	139	136	—	2-21	45
Hingham, . . . . .	4,351	930	489	438	3	2-14	47
Hull, . . . . .	285	66	24	42	—	2-33	43
Kingston, . . . . .	1,655	317	143	170	4	1-92	52
Lakeville, . . . . .	1,160	255	130	125	—	2-20	46
Marion, . . . . .	918	205	93	104	8	2-23	45
Marshfield, . . . . .	1,870	370	208	161	1	1-98	50
Mattapoisett, . . . . .	1,483	290	139	148	3	1-96	51
Middleborough, . . . . .	4,553	929	464	464	1	2-04	49
North Bridgewater, . . . . .	6,584	2,039	1,013	1,017	9	3-09	32
Pembroke, . . . . .	1,524	374	196	178	—	2-45	41
Plymouth, . . . . .	6,272	1,635	886	744	5	2-60	38
Plympton, . . . . .	994	197	101	96	—	1-98	50
Rochester, . . . . .	1,232	211	98	105	8	1-71	58
Scituate, . . . . .	2,227	515	284	231	—	2-31	43
South Scituate, . . . . .	1,774	332	175	156	1	1-87	53
Wareham, . . . . .	3,186	974	488	484	2	3-06	33
West Bridgewater, . . . . .	1,846	430	222	208	—	2-33	43
SUFFOLK COUNTY,	192,700	59,493	30,510	28,964	19	3-09	32
Boston, . . . . .	177,840	55,381	28,406	26,975	—	3-11	32
Chelsea, . . . . .	13,395	3,834	1,958	1,860	16	2-86	35
North Chelsea, . . . . .	921	186	96	87	3	2-02	49
Winthrop, . . . . .	544	92	50	42	—	1-69	59

*for Ten Years—Continued.*

MARRIAGES.			DEATHS.					
Persons.	RATIO.		Persons.	SEX.			RATIO.	
	Marriages to 100 Persons.	Persons living to one Marriage.		Males.	Females.	Unk.	Deaths to 100 Persons living.	Persons living to one Death.
137	·52	194	400	200	200	—	1·51	66
501	·74	185	1,129	578	536	15	1·67	60
721	1·23	80	1,082	579	501	2	1·88	53
2,316	·92	109	5,032	2,468	2,556	8	2·00	50
87	·63	158	234	110	123	1	1·70	59
345	·71	140	842	439	394	9	1·74	57
122	·60	167	327	138	189	—	1·61	62
189	·29	334	658	317	341	—	1·04	96
575	·74	185	1,319	680	637	2	1·70	59
191	·56	178	493	227	266	—	1·45	69
5,001	·77	130	12,943	6,582	6,327	34	2·00	50
658	·77	180	1,307	646	661	—	1·53	65
205	·55	184	559	269	285	5	1·49	67
—	—	—	1,870	1,029	841	—	—	—
79	·67	150	205	114	91	—	1·73	58
189	·73	137	463	239	222	2	1·78	56
243	·76	132	552	284	261	7	1·72	58
51	·67	150	107	52	54	1	1·40	72
146	·93	107	306	157	147	2	1·96	51
130	1·04	96	215	103	111	1	1·73	58
296	·68	147	810	400	409	1	1·85	54
13	·45	220	88	51	37	—	3·09	32
113	·68	146	265	151	114	—	1·60	63
89	·77	130	217	104	112	1	1·87	54
86	·93	107	156	81	75	—	1·70	59
102	·55	183	295	150	145	—	1·58	63
75	·51	197	297	146	151	—	2·00	50
374	·82	122	767	380	387	—	1·68	59
749	1·14	88	1,180	607	568	10	1·79	56
120	·79	127	305	156	149	—	2·00	50
546	·87	115	1,164	578	585	1	1·86	54
54	·54	184	175	108	69	—	1·76	57
107	·87	115	176	76	100	—	1·43	70
172	·78	129	393	194	193	1	1·77	57
109	·61	163	802	400	402	—	1·70	59
204	·64	156	443	213	228	2	1·89	72
91	·49	203	326	156	170	—	1·77	57
25,627	1·33	75	45,070	23,048	22,015	7	2·33	43
24,059	1·35	74	42,592	21,787	20,805	—	2·40	42
1,513	1·13	88	2,345	1,197	1,141	7	1·75	57
26	·28	354	76	37	39	—	·83	121
29	·53	188	57	27	30	—	1·05	95



TABLE XII.—*General Abstract*

Counties and Towns.	Population. U. S. Census June 1, 1860.	BIRTHS.					
		Persons.	Sex.			Ratio.	
			Males.	Females.	Unk.	Births to 100 Persons living.	Persons living to one Birth.
WORCESTER COUNTY,	159,659	43,830	22,427	21,249	154	2.75	36
Ashburnham, . . .	2,108	524	270	240	14	2.49	40
Athol, . . .	2,604	488	253	229	6	1.87	53
Auburn, . . .	914	154	86	68	—	1.68	59
Barre, . . .	2,973	606	322	284	—	2.04	49
Berlin, . . .	1,106	287	147	140	—	2.60	39
Blackstone, . . .	5,453	1,675	842	831	2	3.07	33
Bolton, . . .	1,348	294	151	143	—	2.18	46
Boylston, . . .	929	157	72	84	1	1.69	59
Brookfield, . . .	2,276	599	300	299	—	2.03	38
Charlton, . . .	2,047	310	174	136	—	1.52	66
Clinton, . . .	8,859	1,342	686	650	6	3.48	29
Dana, . . .	876	147	79	61	7	1.69	59
Douglas, . . .	2,442	822	424	398	—	3.33	30
Dudley, . . .	1,736	489	252	237	—	2.82	36
Fitchburg, . . .	7,805	2,248	1,142	1,106	—	2.88	35
Gardner, . . .	2,646	727	366	361	—	2.75	36
Grafton, . . .	4,317	1,200	605	594	1	2.78	36
Hardwick, . . .	1,521	412	229	181	2	2.71	37
Harvard, . . .	1,507	168	80	87	1	1.11	90
Holden, . . .	1,945	343	168	175	—	1.76	57
Hubbardston, . . .	1,621	315	169	146	—	1.94	52
Lancaster, . . .	1,932	250	134	116	—	1.30	77
Leicester, . . .	2,748	615	333	282	—	2.24	45
Leominster, . . .	3,522	767	413	348	6	2.18	46
Lunenburg, . . .	1,212	227	119	108	—	1.87	53
Mendon, . . .	1,351	351	181	158	2	2.60	38
Milford, . . .	9,132	3,499	1,796	1,699	4	3.83	26
Millbury, . . .	3,296	1,082	571	509	2	3.29	30
New Braintree, . . .	805	150	75	70	5	1.87	54
Northborough, . . .	1,565	346	167	179	—	2.21	45
Northbridge, . . .	2,633	666	339	327	—	2.53	40
North Brookfield, . . .	2,760	742	398	341	3	2.69	37
Oakham, . . .	959	149	79	70	—	1.55	64
Oxford, . . .	3,034	757	370	384	3	2.50	40
Paxton, . . .	725	148	79	68	1	2.04	49
Petersham, . . .	1,465	263	142	121	—	1.80	56
Phillipston, . . .	764	156	84	71	1	2.04	49
Princeton, . . .	1,201	267	138	128	1	2.22	45
Royalston, . . .	1,486	276	142	132	2	1.86	54
Rutland, . . .	1,076	251	129	122	—	2.34	43
Shrewsbury, . . .	1,558	421	226	195	—	2.70	37
Southborough, . . .	1,854	500	238	262	—	2.75	36
Southbridge, . . .	3,575	971	512	455	4	2.72	37
Spencer, . . .	2,777	1,142	567	555	20	4.11	24
Sterling, . . .	1,881	307	156	144	7	1.63	61

*for Ten Years—Continued.*

MARRIAGES.			DEATHS.					
Persons.	RATIO.		Persons.	SEX.			RATIO.	
	Marrriages to 100 Persons.	Persons living to one Marriage.		Males.	Females.	Unk.	Deaths to 100 Persons living.	Persons living to one Death.
14,612	·92	109	80,006	15,172	14,757	77	1·88	58
192	·47	211	876	182	193	1	1·79	56
291	1·12	89	456	224	231	1	1·75	57
49	·53	187	112	57	55	—	1·22	82
233	·79	127	556	281	275	—	1·87	53
90	·81	123	184	101	82	1	1·67	60
520	·95	105	899	458	440	1	1·65	61
100	·74	135	250	130	120	—	1·85	54
40	·43	232	132	66	64	2	1·43	70
176	·78	129	419	218	200	1	1·85	54
161	·79	127	839	174	164	1	1·67	60
408	1·04	96	765	390	364	11	2·00	50
69	·79	127	162	74	88	—	1·85	54
160	·66	152	331	178	152	1	1·36	74
99	·57	175	321	165	165	1	1·85	54
982	1·26	80	1,581	785	746	—	1·96	51
180	·68	147	410	189	221	—	1·55	65
335	·78	129	700	323	377	—	1·62	62
104	·68	146	263	129	134	—	1·72	58
92	·61	164	274	134	139	1	1·82	55
113	·58	172	860	187	173	—	1·85	54
118	·61	164	308	159	142	7	1·89	53
130	·67	149	298	128	169	1	1·54	65
173	·63	159	466	226	236	4	1·70	59
205	·58	172	535	245	290	—	1·52	66
75	·62	162	250	116	132	2	2·07	48
70	·52	193	213	105	108	—	1·58	63
1,212	1·33	75	1,989	1,018	960	11	2·18	46
266	·81	124	670	331	339	—	2·03	49
86	·45	224	114	61	52	1	1·42	71
149	·95	105	255	126	129	—	1·63	61
178	·68	148	866	185	181	—	1·39	72
152	·55	181	502	249	252	1	1·82	55
64	·67	150	188	94	94	—	1·96	51
187	·62	162	571	280	290	1	1·88	53
53	·73	137	152	86	66	—	2·10	48
145	·99	101	220	111	109	—	1·50	67
57	·75	134	149	75	74	—	1·96	51
68	·57	176	224	107	116	1	1·87	54
93	·63	159	287	120	163	4	1·93	52
76	·70	142	226	113	113	—	2·10	48
110	·70	142	386	199	187	—	2·48	40
160	·86	116	282	134	147	1	1·52	66
378	1·06	95	695	346	349	—	1·94	51
218	·79	127	512	269	243	—	1·85	54
108	·57	174	318	154	157	2	1·67	60

TABLE XII.—*General Abstract*

Counties and Towns.	Population. U. S. Census June 1, 1860.	BIRTHS.					
		Persons.	Sex.			Ratio.	
			Males.	Females.	Unk.	Births to 100 Persons living.	Persons living to one Birth.
<i>Worcester—Con.</i>							
Sturbridge, . . .	2,291	458	219	236	3	2.00	50
Sutton, . . .	2,676	612	306	305	1	2.29	44
Templeton, . . .	2,816	661	352	308	1	2.35	43
Upton, . . .	1,986	562	280	282	—	2.83	35
Uxbridge, . . .	3,183	820	398	414	8	2.62	38
Warren, . . .	2,107	621	319	302	—	2.95	34
Webster, . . .	2,912	914	471	441	2	3.13	32
Westborough, . . .	2,913	693	339	352	2	2.38	42
West Boylston, . . .	2,509	765	384	381	—	3.05	33
West Brookfield, . . .	1,548	372	184	186	2	2.41	42
Westminster, . . .	1,840	345	148	180	17	1.88	53
Winchendon, . . .	2,624	611	314	285	12	2.33	43
Worcester, . . .	24,960	8,786	4,498	4,288	5	3.52	28

*for Ten Years—Concluded.*

MARRIAGES.			DEATHS.					
Persons.	Ratio.		Persons.	Sex.			Ratio.	
	Marriages to 100 Persons.	Persons living to one Marriage.		Males.	Females.	Unk.	Deaths to 100 Persons living.	Persons living to one Death.
140	61	164	362	170	185	7	1.58	63
192	72	139	465	249	216	—	1.74	58
240	88	113	466	233	233	—	1.66	60
136	68	146	363	178	185	—	1.83	55
305	97	103	476	235	239	2	1.52	66
162	77	130	349	181	167	1	1.66	60
498	1.71	59	576	294	282	—	1.98	51
183	63	159	500	262	238	—	1.72	58
193	77	130	397	194	203	—	1.58	63
109	70	142	298	143	153	2	1.92	52
115	63	160	318	165	149	4	1.73	58
241	92	109	409	207	200	2	1.56	64
3,228	1.30	77	6,016	3,179	2,836	1	2.41	42

TABLE XIII.—BIRTHS.—TEN YEARS—1856-65.

*Distinguishing by Counties, by Months, and by Sex, the registered Number of Children BORN ALIVE during the Ten Years, 1856-65; also for the entire State, the Percentage of the Numbers in each Month, (distinguishing Sex,) to the Total Number.*

Year and Month.	SEX.	Percentage.	State.	Barrenshire.	Berkshire.	Bristol.	Dukes and Nantucket.	Essex.	Franklin.	Hampden.	Hampshire.	Middlesex.	Norfolk.	Plymouth.	Suffolk.	Worcester.
1856-57.	Totals,	100-00	331,493	7,939	13,758	24,926	1,711	44,157	7,167	15,748	9,055	59,693	30,621	16,395	59,493	43,830
	Males,	51-29	171,584	4,127	7,090	12,880	886	22,665	3,614	8,120	4,551	30,461	15,787	8,366	30,510	22,427
	Females,	48-35	161,715	3,746	6,598	11,878	810	21,302	3,498	7,579	4,364	28,993	14,776	7,958	28,984	21,249
	Unknown,	-36	1,194	66	70	168	15	190	55	49	40	239	58	71	19	154
	Totals,	7-68	25,992	568	954	1,959	144	3,332	500	1,126	688	4,323	2,294	1,259	5,075	3,390
1857-58.	Totals,	3-99	13,384	296	476	1,039	70	1,754	252	595	351	2,227	1,217	676	2,621	1,760
	Males,	3-67	12,288	270	475	940	74	1,619	242	529	335	2,079	1,071	582	2,453	1,619
	Females,	-02	50	2	3	10	-	9	6	2	2	17	6	1	1	11
	Unknown,	7-26	24,287	546	994	1,926	113	3,135	522	1,073	672	4,271	2,116	1,209	4,661	3,049
	Totals,	3-75	12,555	305	526	1,021	60	1,620	253	533	334	2,209	1,091	628	2,403	1,572
1858-59.	Totals,	3-49	11,663	239	466	897	53	1,502	267	539	330	2,058	1,022	581	2,253	1,471
	Males,	-02	49	2	2	8	-	13	2	1	8	4	3	-	-	6
	Unknown,	8-82	27,913	552	1,189	2,259	143	3,438	536	1,244	752	5,000	2,388	1,408	5,251	3,608
	Totals,	4-33	14,467	285	617	1,202	71	1,842	261	658	406	2,564	1,232	706	2,718	1,905
	Females,	3-97	13,272	265	569	1,040	71	1,623	273	584	344	2,426	1,152	696	2,531	1,693
1859-60.	Totals,	-02	74	2	3	17	1	18	2	2	2	10	4	6	2	5
	Males,	7-73	25,833	506	1,081	1,869	144	3,248	531	1,150	688	4,610	2,337	1,418	4,880	3,471
	Females,	3-91	13,071	263	586	937	59	1,740	286	586	333	2,313	1,175	697	2,384	1,712
	Unknown,	3-80	12,694	243	493	915	84	1,601	241	561	354	2,284	1,159	717	2,295	1,747
	Totals,	-02	68	-	2	17	1	7	4	3	1	13	8	4	1	12
1860-61.	Totals,	7-88	20,356	496	1,197	1,921	151	3,431	563	1,156	716	4,700	2,449	1,226	4,715	3,585
	Males,	4-06	13,588	258	619	959	79	1,791	287	605	348	2,426	1,232	642	2,435	1,857
	Females,	3-80	12,700	237	570	953	70	1,633	274	546	365	2,265	1,165	577	2,280	1,715
	Unknown,	-02	68	1	8	9	2	7	2	5	3	9	2	7	-	13

Totals,	7-88	26,357	534	1,204	2,032	144	8,378	598	1,294	717	4,777	2,305	1,367	4,523	8,549
Males,	4-04	13,530	270	589	1,071	69	1,726	296	668	366	2,451	1,161	701	2,813	1,849
Females,	3-82	12,769	264	614	951	74	1,643	293	564	348	2,316	1,144	660	2,205	1,698
Unknown,	•	58	•	1	10	1	9	4	2	3	10	•	6	5	7
Totals,	8-60	28,758	720	1,168	2,084	140	8,714	661	1,368	821	5,221	2,561	1,419	4,928	8,968
Males,	4-40	14,702	359	596	1,057	76	1,885	333	712	423	2,700	1,307	720	2,510	2,024
Females,	4-18	13,986	368	568	1,012	64	1,820	325	650	397	2,506	1,251	693	2,415	1,937
Unknown,	•	68	3	4	15	•	9	8	1	1	15	8	0	1	7
Totals,	9-10	30,456	867	1,223	2,208	158	4,095	685	1,504	823	5,870	2,832	1,450	5,229	4,012
Males,	4-66	15,697	451	609	1,130	94	2,033	353	756	441	2,775	1,503	762	2,638	2,002
Females,	4-41	14,743	403	609	1,057	62	1,988	327	743	380	2,582	1,325	685	2,588	1,994
Unknown,	•	116	•	5	21	•	24	5	5	2	13	4	8	3	16
Totals,	8-89	29,731	937	1,191	2,158	158	4,044	668	1,444	783	5,253	2,751	1,428	5,024	3,897
Males,	4-53	15,167	474	614	1,110	78	2,084	350	749	423	2,661	1,412	686	2,543	1,971
Females,	4-33	14,470	453	568	1,039	73	1,937	313	690	358	2,576	1,333	735	2,480	1,915
Unknown,	•	94	10	9	9	2	13	5	5	2	13	6	8	11	11
Totals,	8-95	29,925	817	1,190	2,110	141	4,107	672	1,516	799	5,257	2,795	1,428	5,080	4,013
Males,	4-56	15,235	426	621	1,087	85	2,024	331	770	438	2,656	1,432	732	2,613	2,020
Females,	4-36	14,688	380	563	1,013	56	2,067	337	745	358	2,576	1,367	687	2,466	1,983
Unknown,	•	102	11	6	10	•	16	4	1	3	25	6	9	1	10
Totals,	8-61	28,806	731	1,186	2,056	147	3,883	591	1,401	726	5,270	2,834	1,331	5,032	3,558
Males,	4-46	14,926	395	627	1,081	75	2,038	295	728	361	2,665	1,477	704	2,635	1,845
Females,	4-11	13,746	328	552	963	71	1,815	291	725	365	2,575	1,350	617	2,395	1,699
Unknown,	•	134	8	7	12	1	30	5	8	•	30	7	10	2	14
Totals,	8-97	30,018	648	1,153	2,251	129	4,090	627	1,446	840	5,529	2,966	1,421	5,284	3,664
Males,	4-55	15,235	339	594	1,159	70	2,059	313	743	413	2,776	1,485	702	2,639	1,893
Females,	4-36	14,592	300	549	1,073	57	1,999	306	695	418	2,702	1,442	709	2,594	1,748
Unknown,	•	191	9	10	19	2	32	8	8	9	51	9	10	1	28
Totals,	•	463	17	88	63	4	17	18	31	30	112	23	31	13	66
Males,	•	177	6	16	27	•	9	4	17	14	35	13	11	8	17
Females,	•	184	6	12	25	1	5	9	8	12	48	5	19	4	30
Unknown,	•	102	5	10	11	3	3	5	6	4	29	5	1	1	19

Not stated.

## SUPPLEMENT TO TABLE XIII.

## PLURALITY BIRTHS.—TEN YEARS—1856-65.

[Included in Tables XII and XIII.]

Year and Month.	SEX.	STATE.	Barnstable.	Berkshire.	Bristol.	Dukes and Nantucket.	Essex.	Franklin.	Hampden.	Hampshire.	Middlesex.	Norfolk.	Plymouth.	Suffolk.	Worcester.
10 Years.	Totals.	6,518	174	334	480	30	918	147	350	206	1135	578	371	965	835
	Males.	3,328	103	171	259	15	471	70	179	109	586	299	193	480	413
	Fem.,	3,163	69	161	219	15	441	72	169	97	543	274	178	505	420
	Unk.,	27	2	2	2	-	6	5	2	-	6	-	-	-	2
Jan.	Totals.	485	8	18	46	-	58	12	30	18	78	40	27	84	66
	Males.	253	4	9	25	-	33	4	17	8	36	25	16	41	35
	Fem.,	230	4	9	21	-	25	8	11	10	42	15	11	43	31
	Unk.,	2	-	-	-	-	-	-	2	-	-	-	-	-	-
Feb.	Totals.	433	6	22	84	6	46	8	14	8	76	43	34	72	64
	Males.	212	3	12	15	1	20	4	6	1	42	22	17	34	35
	Fem.,	221	3	10	19	5	26	4	8	7	34	21	17	38	29
March.	Totals.	541	6	36	82	12	87	12	30	16	95	49	28	80	58
	Males.	265	3	15	18	6	41	5	13	10	51	23	13	37	30
	Fem.,	271	1	21	14	6	43	7	17	6	44	26	15	43	28
	Unk.,	5	2	-	-	-	3	-	-	-	-	-	-	-	-
April.	Totals.	567	12	80	86	4	84	16	22	10	108	53	36	91	65
	Males.	286	9	11	19	3	42	5	11	7	56	32	20	39	32
	Fem.,	279	3	19	17	1	42	9	11	3	52	21	16	52	33
	Unk.,	2	-	-	-	-	-	2	-	-	-	-	-	-	-
May.	Totals.	543	6	34	44	2	92	12	35	12	97	44	34	62	69
	Males.	295	4	19	19	-	56	5	26	4	46	24	18	36	38
	Fem.,	248	2	15	25	2	36	7	9	8	51	20	16	26	31
June.	Totals.	525	16	32	46	-	70	10	34	16	102	38	32	65	64
	Males.	261	6	19	29	-	29	7	14	8	49	22	16	29	33
	Fem.,	262	10	13	17	-	39	3	20	8	53	16	16	36	31
	Unk.,	2	-	-	-	-	2	-	-	-	-	-	-	-	-
July.	Totals.	612	20	22	42	-	93	21	26	32	103	36	42	89	86
	Males.	311	12	10	20	-	49	15	16	13	47	17	23	40	49
	Fem.,	301	8	12	22	-	44	6	10	19	56	19	19	49	37
Aug.	Totals.	574	28	28	44	2	62	12	28	32	80	47	22	103	86
	Males.	318	18	23	26	1	27	6	18	14	49	28	9	52	47
	Fem.,	256	10	5	18	1	35	6	10	18	31	19	13	51	39

## SUPPLEMENT TO TABLE XIII.—Concluded.

Months.	SEX.	STATE.	Barnstable.	Berkshire.	Bristol.	Dukes and Nantucket.	Essex.	Franklin.	Hampden.	Hampshire.	Middlesex.	Norfolk.	Plymouth.	Suffolk.	Worcester.
Sept.	Totals, .	521	28	32	38	4	76	16	26	12	82	58	24	60	65
	Males, .	262	17	14	21	4	47	7	12	8	43	28	14	26	21
	Fem., .	255	11	16	17	-	29	7	14	4	39	30	10	34	44
	Unk., .	4	-	2	-	-	-	2	-	-	-	-	-	-	-
Oct.	Totals, .	587	16	26	32	-	74	14	46	20	96	55	84	94	80
	Males, .	308	12	13	17	-	35	6	22	16	52	31	20	48	36
	Fem., .	275	4	13	15	-	39	8	24	4	42	24	14	46	42
	Unk., .	4	-	-	-	-	-	-	-	-	2	-	-	-	2
Nov.	Totals, .	498	14	28	40	-	84	4	28	12	90	58	22	50	68
	Males, .	233	6	12	23	-	37	2	9	7	46	26	7	30	28
	Fem., .	259	8	16	15	-	46	1	19	5	42	32	15	20	40
	Unk., .	6	-	-	2	-	1	1	-	-	2	-	-	-	-
Dec.	Totals, .	622	14	26	44	-	92	10	31	12	128	50	86	115	64
	Males, .	316	9	14	26	-	55	4	15	8	69	19	20	48	29
	Fem., .	303	5	12	18	-	37	6	16	4	57	31	16	67	35
	Unk., .	2	-	-	-	-	-	-	-	-	2	-	-	-	-
Not stated	Totals, .	10	-	-	2	-	-	-	-	6	-	2	-	-	-
	Males, .	8	-	-	1	-	-	-	-	5	-	2	-	-	-
	Fem., .	2	-	-	1	-	-	-	-	1	-	-	-	-	-

NOTE.—During the *Ten Years* 1856-65, 32 cases of TRIPLETS occurred in this Commonwealth. Of these, one was in Franklin County; two each in Essex and Hampden; three in Plymouth; four in Middlesex; six in Worcester; and seven each in Norfolk and Suffolk Counties.



TABLE XIV.—STILLBORN.—TEN YEARS—1856-65.

*Distinguishing by Counties, by Months, and by Sex, the registered Number of Still-births during the Ten Years, 1856-65.*

Year and Months.	SEX.	STATE.	Barnstable.	Berkshire.	Bristol.	Dukes and Nantucket.	Essex.	Franklin.	Hampden.	Hampshire.	Middlesex.	Norfolk.	Plymouth.	Suffolk.	Worcester.
10 Years.	Totals, .	8,591	132	133	664	62	1033	90	144	92	1341	593	167	8366	774
	Males, .	4,650	49	64	299	34	565	41	71	44	718	335	95	1920	415
	Fem., .	3,047	49	47	173	20	312	30	47	36	477	211	55	1297	296
	Unk., .	894	34	22	192	8	156	19	26	15	146	47	17	149	63
Jan.	Totals, .	710	9	9	53	9	93	5	9	10	105	63	11	270	64
	Males, .	362	1	2	26	6	54	1	5	3	58	32	2	139	33
	Fem., .	281	4	6	16	3	27	1	3	3	33	27	7	122	29
	Unk., .	67	4	1	11	-	12	3	1	4	14	4	2	9	2
Feb.	Totals, .	678	10	12	50	8	64	5	4	8	110	55	13	269	70
	Males, .	369	2	6	27	3	34	1	3	2	59	30	4	161	37
	Fem., .	256	6	5	14	4	20	2	1	2	41	22	7	101	31
	Unk., .	53	2	1	9	1	10	2	-	4	10	8	2	7	2
March.	Totals, .	737	5	6	48	1	87	12	12	6	100	56	12	311	81
	Males, .	401	2	3	15	-	52	7	6	2	52	31	9	183	39
	Fem., .	272	2	3	13	1	27	3	6	3	39	19	3	119	34
	Unk., .	64	1	-	20	-	8	2	-	1	9	6	-	9	8
April.	Totals, .	709	7	9	57	4	84	7	12	6	110	31	16	298	68
	Males, .	412	2	5	23	4	50	2	6	6	71	20	14	168	41
	Fem., .	223	3	3	11	-	23	4	5	-	27	10	2	113	22
	Unk., .	74	2	1	23	-	11	1	1	-	12	1	-	17	5
May.	Totals, .	704	8	17	47	4	81	8	9	4	120	43	8	304	51
	Males, .	396	2	9	21	3	52	5	5	2	67	26	6	175	23
	Fem., .	232	3	4	9	-	17	2	3	1	41	16	2	110	24
	Unk., .	76	3	4	17	1	12	1	1	1	12	1	-	19	4
June.	Totals, .	723	13	10	45	8	78	8	10	10	107	46	13	313	62
	Males, .	385	5	6	18	4	41	3	4	4	52	28	6	180	34
	Fem., .	260	7	4	11	1	25	4	4	6	49	15	4	107	23
	Unk., .	78	1	-	16	3	12	1	2	-	6	3	3	26	5
July.	Totals, .	698	12	9	53	6	89	9	10	6	112	46	13	272	61
	Males, .	373	4	3	21	3	52	4	7	1	55	24	8	151	40
	Fem., .	248	5	4	13	2	27	3	1	4	48	15	3	108	15
	Unk., .	77	3	2	19	1	10	2	2	1	9	7	2	13	6

TABLE XIV.—Concluded.

Months.	SEX.	STATE.	Barnstable.	Berkshire.	Bristol.	Dukes and Nantucket.	Essex.	Franklin.	Hampden.	Hampshire.	Middlesex.	Norfolk.	Plymouth.	Suffolk.	Worcester.
Aug.	Totals, .	695	14	8	52	6	80	2	13	14	120	44	23	262	57
	Males, .	386	10	4	21	2	36	1	8	7	65	28	14	161	29
	Fem., .	243	2	2	16	4	28	1	3	5	44	12	7	96	23
	Unk., .	66	2	2	15	—	16	—	2	2	11	4	2	6	5
Sept.	Totals, .	664	18	10	56	3	79	3	15	8	117	47	11	251	46
	Males, .	359	7	5	26	1	44	—	6	4	66	25	5	142	28
	Fem., .	228	5	2	12	1	21	2	6	3	37	19	4	98	16
	Unk., .	79	6	3	18	1	14	1	3	1	14	3	2	11	2
Oct.	Totals, .	717	17	14	55	4	88	12	14	5	89	67	11	271	70
	Males, .	380	8	6	29	2	43	7	7	1	49	38	5	152	33
	Fem., .	273	5	4	17	2	37	4	5	3	29	23	5	109	30
	Unk., .	64	4	4	9	—	8	1	2	1	11	6	1	10	7
Nov.	Totals, .	711	9	9	69	3	102	8	10	9	118	44	11	261	58
	Males, .	390	4	4	35	2	55	6	6	7	65	26	5	143	32
	Fem., .	249	3	4	17	1	33	1	3	2	41	14	4	104	22
	Unk., .	72	2	1	17	—	14	1	1	—	12	4	2	14	4
Dec.	Totals, .	797	10	15	77	5	88	11	17	6	128	50	24	284	82
	Males, .	429	2	9	36	4	52	4	7	5	58	27	16	165	44
	Fem., .	277	4	4	23	1	27	3	7	1	47	18	7	110	25
	Unk., .	91	4	2	18	—	9	4	3	—	23	5	1	9	13
Not stated.	Totals, .	48	—	5	2	1	20	—	9	—	5	1	1	—	4
	Males, .	8	—	2	1	—	—	—	1	—	1	—	1	—	2
	Fem., .	7	—	2	1	—	—	—	—	—	1	—	—	—	2
	Unk., .	33	—	1	—	1	20	—	8	—	3	—	—	—	—

TABLE XV.—MARRIAGES.—TEN YEARS.—1856-65.  
*Distinguishing by Counties and by Months, the Number of Marriages registered during the Ten Years, 1856-65.*

MONTHS.	STAT.	Barnstable.	Berkshire.	Bristol.	Dukes & Nan- ucket.	Knox.	Franklin.	Hampden.	Hampshire.	Middlesex.	North.	Plymouth.	Suffolk.	Worcester.
TEN YEARS, . . .	116,833	2,997	4,572	8,189	844	15,667	2,520	6,988	8,177	18,584	8,158	5,001	25,627	14,609
January, . . .	10,822	295	353	703	65	1,487	241	753	299	1,622	725	450	2,466	1,363
February, . . .	8,560	206	344	513	49	1,029	150	639	187	1,432	563	336	2,093	1,019
March, . . .	6,669	209	308	464	54	949	197	413	220	941	426	332	1,207	889
April, . . .	9,713	218	349	629	46	1,183	222	612	277	1,654	706	366	2,071	1,380
May, . . .	10,190	220	340	709	60	1,300	215	579	293	1,618	733	421	2,342	1,360
June, . . .	9,273	181	279	690	69	1,268	205	462	257	1,550	704	404	2,082	1,122
July, . . .	8,575	175	339	671	68	1,137	143	471	171	1,410	598	338	2,026	1,028
August, . . .	8,302	165	288	580	87	1,120	125	431	208	1,392	615	344	1,933	994
September, . . .	9,975	179	424	752	79	1,321	194	514	245	1,615	686	420	2,301	1,245
October, . . .	10,889	237	486	728	110	1,400	216	598	309	1,748	810	424	2,494	1,329
November, . . .	14,355	476	492	1,004	86	2,024	331	850	431	2,252	1,002	682	2,922	1,803
December, . . .	9,030	429	372	694	68	1,399	223	587	258	1,277	588	484	1,607	1,044
Unknown, . . .	480	7	198	2	3	50	58	29	22	73	2	-	8	33



**TABLE XVI.—Continued.**

**(B.) First Marriage of Male and subsequent Marriage of Female.**

AGE OF MALES.	AGE OF FEMALES.														
	ALL AGES.	Under 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 to 75.	75 to 80.	Unknown.
ALL AGES,	5,169	86	974	1,761	1,225	682	247	117	85	15	9	-	-	1	67
Und. 20,	40	8	28	4	5	-	-	-	-	-	-	-	-	-	-
20 to 25,	1,121	52	454	440	127	80	1	2	2	-	-	-	-	-	18
25 to 30,	1,686	21	825	769	407	119	22	8	2	1	1	-	-	-	11
30 to 35,	1,057	8	109	358	870	148	47	8	3	1	-	-	-	-	5
35 to 40,	602	1	89	116	196	171	51	21	2	1	-	-	-	-	4
40 to 45,	305	1	9	52	67	86	59	22	5	2	1	-	-	-	1
45 to 50,	185	-	7	10	39	53	35	29	6	5	1	-	-	-	-
50 to 55,	84	-	2	10	9	17	22	16	6	1	-	-	-	-	1
55 to 60,	30	-	-	1	1	6	4	9	4	2	2	-	-	-	1
60 to 65,	18	-	-	1	1	3	2	4	2	2	1	-	-	-	-
65 to 70,	5	-	-	-	-	-	2	-	1	-	2	-	-	-	-
70 to 75,	2	-	-	-	-	-	-	-	1	-	-	-	-	-	1
75 to 80,	2	-	-	-	-	-	-	-	1	-	-	-	-	1	-
Over 80,	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unk.,	32	-	-	-	1	-	-	-	-	-	1	-	-	-	30

**(C.) Subsequent Marriage of Male, but First Marriage of Female.**

[illegible]





Totals,	16,140	410	572	1,190	117	2,141	885	767	448	2,725	1,329	872	3,088	2,096
Males,	8,218	218	289	622	48	1,061	180	392	241	1,432	660	465	1,375	1,046
Females,	7,878	191	280	565	69	1,069	199	367	204	1,302	667	404	1,513	1,048
Unknown,	44	1	3	3	-	11	6	8	3	1	2	3	-	8
Totals,	18,975	484	634	1,265	147	2,523	447	954	590	8,250	1,395	950	8,870	2,466
Males,	9,779	229	320	657	84	1,314	238	498	305	1,617	676	518	2,024	1,299
Females,	8,866	250	311	605	63	1,198	204	453	278	1,632	717	428	1,846	1,159
Unknown,	67	5	3	3	-	11	6	3	12	11	2	4	-	8
Totals,	26,046	631	975	1,923	165	3,366	654	1,423	827	4,317	2,105	1,298	4,904	3,368
Males,	13,357	336	517	995	75	1,711	329	731	418	2,180	1,082	645	2,589	1,739
Females,	12,611	295	454	916	90	1,646	324	681	398	2,119	1,019	648	2,404	1,617
Unknown,	78	-	4	12	-	9	1	11	11	8	4	5	1	12
Totals,	25,082	697	960	1,926	198	3,399	600	1,253	680	4,178	2,096	1,421	4,474	3,155
Males,	12,580	355	485	1,018	93	1,703	288	612	329	2,093	1,037	716	2,275	1,576
Females,	12,363	339	465	903	99	1,690	305	629	336	2,073	1,053	702	2,197	1,572
Unknown,	89	3	10	5	1	6	7	12	15	12	6	3	2	7
Totals,	21,008	610	818	1,648	132	2,850	509	1,054	636	3,519	1,719	1,107	3,624	2,762
Males,	10,550	310	413	839	72	1,424	257	547	292	1,822	838	569	1,806	1,361
Females,	10,398	295	403	808	80	1,417	250	503	331	1,687	874	535	1,818	1,392
Unknown,	65	5	2	1	-	9	2	4	13	10	7	3	-	9
Totals,	17,851	453	631	1,429	133	2,387	426	887	504	2,880	1,418	1,020	3,464	2,289
Males,	8,830	231	315	707	70	1,127	208	446	249	1,425	663	520	1,739	1,130
Females,	8,978	219	330	715	63	1,231	213	438	254	1,403	751	499	1,725	1,137
Unknown,	43	3	6	7	-	9	5	3	1	2	4	1	-	2
Totals,	19,002	426	700	1,536	163	2,502	497	911	544	3,111	1,546	1,042	3,659	2,365
Males,	9,476	224	349	753	81	1,223	241	445	253	1,541	788	537	1,841	1,200
Females,	9,485	202	349	780	82	1,272	252	466	286	1,563	752	504	1,818	1,159
Unknown,	41	-	2	8	-	7	4	-	5	7	6	1	-	6
Totals,	440	51	20	38	4	75	31	49	44	54	29	20	-	25
Males,	270	39	7	20	3	70	10	22	25	32	18	8	-	16
Females,	145	9	8	17	1	6	20	23	16	18	10	11	-	7
Unknown,	25	3	5	1	-	-	1	4	3	4	1	1	-	2

Not stated. Dec. Nov. Oct. Sept. Aug. July. June.



TABLE XVIII.—DEATHS.—TEN YEARS—1856-65.

*Distinguishing by Counties, by Age, and by Sex, the registered Number of Persons who have died during the Ten Years, 1856-65; also for the entire State, the Percentage of the Numbers at each specified Age, (distinguishing Sex,) to the Total Number.*

Age.	SEX.	Percentage.	State.	Barnstable.	Berkshire.	Bristol.	Dukes and Kentucket.	Essex.	Franklin.	Gloucester.	Hampshire.	Middlesex.	Northampton.	Plymouth.	Suffolk.	Worcester.
All Ages.	Totals,	100-00	236,529	5,973	8,972	17,639	1,868	31,409	5,060	11,653	7,174	39,264	18,878	12,943	45,070	80,006
	Males,	50-47	119,379	3,110	4,539	8,945	886	16,941	2,836	5,944	3,604	19,782	9,390	6,532	23,048	15,172
	Females,	49-24	116,498	2,831	4,383	8,688	980	15,643	2,783	5,651	3,585	19,409	9,486	6,327	22,015	14,757
	Unknown,	29	712	32	50	56	2	125	41	58	85	98	52	94	7	77
Under 1.	Totals,	19-05	45,069	863	1,344	3,111	205	6,022	730	2,181	1,117	7,760	3,628	2,195	10,368	5,545
	Males,	10-33	24,427	460	724	1,724	105	3,243	390	1,183	602	4,282	1,951	1,173	5,534	3,056
	Females,	8-49	20,088	378	576	1,346	98	2,687	313	951	460	3,408	1,683	996	4,827	2,420
	Unknown,	23	564	25	44	41	2	92	27	47	55	75	44	26	7	69
1 to 2.	Totals,	8-37	19,790	397	553	1,419	68	2,547	298	943	422	3,370	1,663	841	4,826	2,448
	Males,	4-45	10,545	210	318	790	33	1,391	168	498	214	1,796	890	494	2,630	1,268
	Females,	3-90	9,202	184	238	620	35	1,149	135	442	200	1,569	782	403	2,296	1,154
	Unknown,	02	43	3	2	9	1	7	1	3	8	5	1	4	1	1
2 to 3.	Totals,	4-45	10,527	214	351	756	43	1,329	211	520	261	1,325	821	487	2,892	1,317
	Males,	2-32	5,498	104	185	421	20	700	103	278	139	936	395	260	1,258	694
	Females,	2-12	5,013	108	165	334	23	628	104	241	119	386	424	226	1,134	621
	Unknown,	01	21	2	1	1	1	1	4	1	3	3	2	1	1	2
3 to 4.	Totals,	2-94	6,965	151	264	523	30	956	120	364	177	1,173	614	368	1,399	826
	Males,	1-48	3,509	77	137	262	16	496	64	169	94	588	316	179	696	415
	Females,	1-46	3,448	73	127	261	14	460	55	195	80	583	298	188	703	411
	Unknown,	-	8	1	-	-	-	-	1	-	3	2	-	1	-	-

1865.]

## DEATHS.

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4 to 5	Totals,	107	193	406	37	689	97	284	126	338	432	285	1,016	676
	Males,	59	96	197	20	363	53	188	65	424	218	119	499	339
	Females,	48	97	209	17	326	43	144	61	418	214	116	517	337
	Unknown,,	4					1	2		1				-
Under 5	Totals,	1,782	2,705	6,215	338	11,543	1,456	4,292	2,103	14,966	7,158	4,128	20,001	10,807
	Males,	910	1,480	3,394	194	6,198	778	2,266	1,114	8,026	3,760	2,166	10,517	5,792
	Females,	791	1,198	2,770	187	5,250	680	1,973	920	6,854	3,351	1,928	9,477	4,943
	Unknown,,	31	47	51	2	100	38	53	69	86	47	32	7	72
5 to 10	Totals,	289	487	975	99	1,559	266	685	363	2,051	998	618	1,974	1,546
	Males,	158	234	486	47	788	158	339	180	1,067	496	289	1,024	762
	Females,	131	253	488	52	771	107	295	179	984	501	324	950	784
	Unknown,,	8		1			1	1	4		1			-
10 to 15	Totals,	147	262	448	42	720	144	283	168	808	418	301	712	724
	Males,	76	137	220	20	330	65	140	83	389	204	136	373	345
	Females,	71	145	228	22	389	79	143	85	419	214	165	339	378
	Unknown,,	2				1								1
15 to 20	Totals,	275	423	646	60	1,265	260	456	317	1,525	657	433	1,407	1,331
	Males,	158	208	298	38	550	127	210	187	689	315	233	673	666
	Females,	117	219	348	22	715	132	246	178	836	341	250	734	665
	Unknown,,	5	1				1		2		1			-
20 to 30	Totals,	715	874	1,767	176	3,532	606	1,190	747	4,203	1,848	1,404	4,976	3,263
	Males,	367	394	859	89	1,701	286	561	356	1,876	917	737	2,365	1,572
	Females,	348	480	908	87	1,830	319	628	391	2,327	931	667	2,611	1,691
	Unknown,,	3				1	1	1						-
30 to 40	Totals,	464	742	1,397	169	2,584	428	984	583	3,462	1,575	1,063	4,671	2,357
	Males,	262	348	657	56	1,271	180	436	281	1,618	732	530	2,357	1,108
	Females,	212	394	740	73	1,313	239	498	302	1,844	843	533	2,314	1,254
	Unknown,,													

**TABLE XVIII.—Concluded.**

Age.	SEX.	Percentage.	Grav.	Barnstable.	Berkshire.	Bristol.	Dukes and Nantucket.	Essex.	Franklin.	Hampden.	Hampshire.	Middlesex.	Norfolk.	Plymouth.	Suffolk.	Worcester.
20 to 30	Totals.	6.80	16,077	865	571	1,221	136	1,982	358	812	448	2,672	1,242	788	3,715	1,827
	Males.	8.61	8,542	201	281	637	61	1,003	168	442	195	1,432	638	410	2,122	957
	Females.	3.19	7,535	164	290	584	75	929	185	370	248	1,240	609	878	1,593	870
30 to 40	Totals.	6.11	14,455	375	590	1,106	137	1,850	399	716	465	2,423	1,150	742	2,666	1,836
	Males.	8.27	7,725	207	311	580	65	981	189	387	242	1,317	580	412	1,486	968
	Females.	2.84	6,728	168	279	526	72	869	210	329	222	1,106	570	830	1,180	867
40 to 50	Unknown.	-	2	-	-	-	-	-	-	-	1	-	-	-	-	1
	Totals.	6.68	15,740	425	744	1,248	169	2,044	528	808	602	2,535	1,266	1,057	2,271	2,048
	Males.	8.89	8,026	238	409	627	87	1,082	270	437	297	1,277	628	580	1,133	1,038
50 to 60	Females.	3.27	7,714	192	335	616	82	1,012	258	371	805	1,258	640	497	1,138	1,010
	Totals.	7.02	16,567	626	822	1,830	261	2,327	617	817	701	2,506	1,345	1,254	1,701	2,290
	Males.	8.80	7,798	297	418	614	127	1,034	824	405	354	1,157	632	604	692	1,140
60 to 70	Females.	8.72	8,797	329	404	716	134	1,298	298	411	847	1,348	713	650	1,009	1,150
	Unknown.	-	2	-	-	-	-	-	-	1	-	1	-	-	-	-
	Totals.	4.43	10,477	397	481	889	223	1,547	418	501	436	1,554	900	829	790	1,517
70 to 80	Males.	1.83	4,339	177	236	382	84	553	199	222	190	669	354	374	253	641
	Females.	2.60	6,138	220	245	507	139	994	214	279	246	885	546	455	532	876
	Totals.	8.4	2,001	68	108	192	43	260	93	88	81	277	171	152	164	809
80 to 90	Males.	2.9	690	25	45	72	13	73	47	32	87	95	56	49	42	104
	Females.	5.5	1,311	43	63	120	30	187	46	51	44	182	115	103	122	205

1865.]

## DEATHS.

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Not Over 100	Totals,	.	.	.08	72	2	7	9	-	5	8	3	1	13	7	3	8	11
	Males,	.	.	.01	18	-	8	2	-	1	-	-	1	1	8	1	-	6
	Females,	.	.	.02	54	2	4	7	-	4	8	8	-	12	4	2	8	5
Not Under 100	Totals,	.	.	.76	1,796	93	136	201	10	241	94	123	184	289	143	128	14	140
	Males,	.	.	.41	974	49	60	117	5	131	41	67	87	169	82	82	6	78
	Females,	.	.	.32	762	43	74	80	5	87	48	54	88	114	68	44	8	59
	Unknown,	.	.	.08	60	1	2	4	-	23	5	2	9	6	8	2	-	8

# APPENDIX.

## L A W S

### CONCERNING THE REGISTRATION OF BIRTHS, MARRIAGES, AND DEATHS.

#### [General Statutes—Chapter 21.]

#### OF THE REGISTRY AND RETURNS OF BIRTHS, MARRIAGES, AND DEATHS.

##### SECTION

1. City and Town Clerks to obtain, record, and index certain facts concerning Births, Marriages, and Deaths.
2. Parents and others to give notice of Births, and Deaths.
3. Physicians to give Certificate of Cause of Death, when requested. Penalty.
4. Town Clerk to give Certificate of Registry of Death to the Person having charge of funeral rites *preliminary* to Interment, who shall deliver the same to the Person having charge of the Interment. No Interment to take place without such certificate. Penalty, if Interment be without Certificate, and if notice be not forthwith given, twenty dollars.
5. Clerk annually to transmit certified Copies of Record to Secretary.

##### SECTION

6. Record or Certificate of Clerk to be *prima facie* evidence in Legal Proceedings.
7. Clerks—Fees of, payable by City or Town; Accounts of, to be certified by Secretary. Penalty for non-performance of duty.
8. Superintendents of State Almshouses to obtain, record and return to Secretary, births and deaths. Town clerks exempt.
9. Secretary to return Blank Books and Forms for returns, with Instructions and Explanations. Clerks to distribute the Blank Forms for Returns.
10. Secretary,—to cause Returns to be bound, &c.; to Report to Legislature, &c.; to do all other acts necessary.
11. Registrars may be chosen, in certain cases, in place of Town Clerks.

SECTION 1. The clerk of each city and town shall receive or obtain, and record, and index, the following facts concerning the births, marriages, and deaths, therein, separately numbering and recording the same in the order in which he receives them, designated in separate columns :

In the record of births, the date of the birth, the place of birth, the name of the child, (if he have any,) the sex and color of the child, the names and the places of birth of the parents, the occupation of the father, the residence of the parents, and the date of the record ;

In the record of marriages, the date of the marriage, the place of marriage, the name, residence, and official station of the person by whom married, the names and places of birth of the parties, the residence of each, the age and color of each, the condition of each, (whether single or widowed,) the occupation, the names of the parents, and the date of the record ;

In the record of deaths, the date of the death, the name of the deceased, the sex, the color, the condition, (whether single, widowed, or married,) the age, the residence, the occupation, the place of death, the place of birth, the names and places of birth of the parents, the disease or cause of death, the place of burial, and the date of the record.

SECTION 2. Parents shall give notice to the clerk of their city or town of the births and deaths of their children ; every householder shall give

like notice of every birth and death happening in his house; the eldest person next of kin shall give such notice of the death of his kindred; the keeper of a workhouse, house of correction, prison, hospital, or almshouse, except the State almshouses at Tewksbury, Bridgewater, and Monson, and the master or other commanding officer of any ship shall give like notice of every birth and death happening among the persons under his charge. Whoever neglects to give such notice for the space of six months after a birth or death, shall forfeit a sum not exceeding five dollars.

SECTION 3. Any physician having attended a person during his last illness, shall—when requested within fifteen days after the decease of such person—forthwith furnish for registration a certificate of the duration of the last sickness, the disease of which the person died, and the date of his decease, as nearly as he can state the same. If any physician refuses or neglects to make such certificate, he shall forfeit and pay the sum of ten dollars to the use of the town in which he resides.

SECTION 4. Every sexton, undertaker, or other person having charge of a burial-ground, or the superintendent of burials having charge of the obsequies or funeral rites preliminary to the interment of a human body, shall forthwith obtain and return to the clerk of the city or town in which the deceased resided or the death occurred, the facts required by this chapter to be recorded by said officer concerning the deceased, and the person making such return shall receive from his city or town the fee of ten cents therefor.

The clerk, upon recording such facts, shall forthwith give to the person making such return, a certificate that such return has been made, which certificate such person shall deliver to the person having charge of the interment, if other than himself, before the burial when practicable, otherwise within seven days thereafter. When a burial takes place and no certificate is delivered as aforesaid, the sexton, undertaker, or other person having charge of the interment, shall forthwith give notice thereof to the clerk under penalty of twenty dollars.

SECTION 5. The clerk of each city and town shall annually on or before the first day of February, transmit to the secretary of the Commonwealth, certified copies of the records of the births, marriages, and deaths, which have occurred therein during the year ending on the last day of the preceding December.

SECTION 6. The record of the town clerk relative to any birth, marriage, or death, shall be *prima facie* evidence, in legal proceedings, of the facts recorded. The certificate signed by the town clerk for the time being shall be admissible as evidence of any such record.

SECTION 7. The clerk shall receive from his city or town for obtaining, recording, indexing, and returning to the secretary of the Commonwealth, the facts in relation to a birth, twenty cents; a marriage, ten cents; a death, twenty cents for each of the first twenty entries, and ten cents for each subsequent entry, as the same shall be certified by the secretary of the Commonwealth; but a city or town containing more than ten thousand inhabitants may limit the aggregate compensation allowed to their clerk. He shall forfeit a sum not less than twenty nor more than one hundred dollars for each refusal or neglect to perform any duty required of him by this chapter.

SECTION 8. The superintendents of the State almshouses at Tewksbury, Bridgewater, and Monson, shall obtain, record, and make return of,

the facts in relation to the births and deaths which occur in their respective institutions, in like manner as is required of town clerks. The clerks of said towns shall, in relation to the births and deaths of persons in said almshouses, be exempt from the duties otherwise required of them by this chapter.

SECTION 9. The secretary shall, at the expense of the Commonwealth, prepare and furnish to the clerks of the several cities and towns, and to the superintendents of the State almshouses, blank books of suitable quality and size to be used as books of record under this chapter, blank books for indexes thereto, and blank forms for returns, on paper of uniform size; and shall accompany the same with such instructions and explanations as may be necessary and useful. City and town clerks shall make such distribution of blank forms of returns furnished by the secretary as he shall direct.

SECTION 10. The secretary shall cause the returns received by him for each year to be bound together in one or more volumes with indexes thereto. He shall prepare from the returns such tabular results as will render them of practical utility, make report thereof annually to the legislature, and do all other acts necessary to carry into effect the provisions of this chapter.

SECTION 11. Any city or town containing more than ten thousand inhabitants, may choose a person other than the clerk to be registrar, who shall be sworn, and to whom all the provisions of this chapter concerning clerks shall apply. The returns and notices required to be made and given to clerks shall be made and given to such registrar under like penalties.

SECTION 12. The secretary of this Commonwealth shall prosecute, by an action of tort, in the name of the Commonwealth, for the recovery of any penalty or forfeiture imposed by this chapter.

SECTION 13. Any city or town may make rules and regulations to enforce the provisions of this chapter, or to secure a more perfect registration of births, marriages, and deaths, therein.

### [General Statutes—Chapter 106.]

#### OF MARRIAGE.

##### SECTION

7. Notice of Intention of Marriage to be entered with Town Clerk.
8. Certificate of Record of Intention to be given to Parties by Clerk. Such certificate to be delivered to Person before whom Marriage is to be solemnised.
9. Certificate not to issue to certain Minors, except on application of Parent, &c. Penalty.
10. Clerk may require Affidavit of Age.
11. Penalty for making False Statement.
12. Parties living in State and Married out of it, to file certificate on return. Penalty.
13. No Person to solemnise Marriage of a Minor, without consent of Parents, if any in the State competent to act.

##### SECTION

14. Marriages, by Whom to be solemnised, and in what Place.
15. Marriages among Quakers.
16. Persons solemnising Marriage to keep Record and to make Returns to certain Town Clerks. Clerk to record all Marriages so returned.
17. Penalty for not making Returns.
18. Penalty for solemnising a Marriage unlawfully.
19. Penalty, on Person not authorised to Marry.
21. Record of Marriage, or certified copy thereof, presumptive evidence of Marriage.

SECTIONS 1, 2 and 3. [Marriage between certain relatives prohibited.]

SECTION 4. [Polygamy forbidden.]

SECTION 5. [Marriage contracted by insane persons or idiots, void.]

SECTION 6. [Marriages of persons marrying out of the State in order to evade, &c., void.]

**SECTION 7.** Persons intending to be joined in marriage, shall, before their marriage cause notice thereof to be entered in the office of the clerk, or registrar of the city or town in which they respectively dwell, if within the State. If there is no such clerk or registrar in the place of their residence, the entry shall be made in an adjoining city or town.

**SECTION 8.** The clerk or registrar shall deliver to the parties a certificate under his hand, specifying the time when notice of the intention of marriage was entered with him, together with all facts in relation to the marriage required by law to be ascertained and recorded, except those respecting the person by whom the marriage is to be solemnized. Such certificate shall be delivered to the minister or magistrate in whose presence the marriage is to be contracted, before he proceeds to solemnize the same.

**SECTION 9.** If a clerk or registrar issues such certificate to a male under the age of twenty-one years, or a female under the age of eighteen years, having reasonable cause to suppose the person to be under such age, except upon the application or consent in writing of the parent, master, or guardian, of such person, he shall forfeit a sum not exceeding one hundred dollars; but if there is no parent, master, or guardian, in this State, competent to act, a certificate may be issued without such application or consent.

**SECTION 10.** The clerk or registrar may require of any person applying for such certificate, an affidavit sworn to before a justice of the peace for the county where the application is made, setting forth the age of the parties; which affidavit shall be sufficient proof of age to authorize the issuing of the certificate.

**SECTION 11.** Whoever applying for such certificate wilfully makes a false statement in relation to the age or residence, parent, master, or guardian, of either of the parties intending marriage, shall forfeit a sum not exceeding two hundred dollars.

**SECTION 12.** When a marriage is solemnized in another State between parties living in this State, and they return to dwell here, they shall, within seven days after their return, file with the clerk or registrar of the city or town, where either of them lived at the time, a certificate or declaration of their marriage, including the facts concerning marriages required by law, and for every neglect they shall forfeit ten dollars.

**SECTION 13.** No magistrate or minister shall solemnize a marriage, having reasonable cause to suppose either of the parties to be under the age mentioned in section nine, without the consent of the parent or guardian having the custody of the minor, if there is any in the State competent to act.

**SECTION 14.** Marriages may be solemnized by a justice of the peace in the county for which he is appointed, when either of the parties resides in the same county; and throughout the State by any minister of the gospel ordained according to the usage of his denomination, who resides within the State and continues to perform the functions of his office; but all marriages shall be solemnized in the city or town in which the person solemnizing them resides, or in which one or both of the persons to be married reside.

**SECTION 15.** Marriages among the people called Friends or Quakers may be solemnized in the manner heretofore used and practised in their societies.

**SECTION 16.** Every justice of the peace, minister, and clerk, or keeper of the records of the meeting wherein any marriages among the Friends or Quakers are solemnized, shall make a record of each marriage solemnized before him, together with all facts relating to the marriage required by law



to be recorded. He shall also between the first and tenth days of each month return a copy of the record for the month next preceding, to the clerk or registrar of the city or town in which the marriage was solemnized, and shall when neither of the parties to a marriage resides in the city or town in which the marriage is solemnized, return a copy of the record of such marriage to the clerk or registrar of the city or town in which one or both of said parties reside. All marriages so returned shall be recorded by the clerk or registrar.

SECTION 17. Every person neglecting to make the returns required by the preceding section, shall forfeit for each neglect not less than twenty nor more than one hundred dollars.

SECTION 18. A justice of the peace or minister who joins persons in marriage contrary to the provisions of this chapter, knowing that the marriage is not duly authorized, shall forfeit not less than fifty nor more than one hundred dollars.

SECTION 19. Whoever undertakes to join persons in marriage knowing that he is not authorized so to do, shall be imprisoned in the jail or confined to hard labor for a term not exceeding six months, or pay a fine of not less than fifty nor more than two hundred dollars.

SECTION 20. [Unintentional informality does not invalidate marriage in other respects lawful.]

SECTION 21. The record of a marriage, made and kept as prescribed by law by the person before whom the marriage is solemnized, or by the clerk or registrar of any city or town, or a copy of such record duly certified, shall be received in all courts and places as presumptive evidence of such marriage.

SECTION 22. [Admission of respondent, general repute, &c., competent evidence to prove the fact of marriage.]

SECTION 23. [Marriage in foreign countries by a consul or diplomatic agent valid, and certificate of such consul or agent presumptive evidence thereof.]

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[General Statutes—Chapter 29.]

OF THE PUBLIC RECORDS.

SECTION 10. [Records and files may be inspected and copied. Clerks to certify to transcripts, on payment of a reasonable fee.]

SECTION 11. [Penalties; . . . . . for altering or mutilating any record, paper, or written document, a sum not exceeding fifty dollars, —for wrongfully detaining records, and other documents, fifty dollars.]

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[General Statutes—Section 1 of Chapter 174.]

Sentence when no punishment is provided.

SECTION 1. In cases of legal conviction, where no punishment is provided by statute, the court shall award such sentence as is conformable to the common usage and practice in this State, according to the nature of the offence, and not repugnant to the constitution.

[Chapter 138.]

AN ACT CONCERNING THE REGISTRY AND RETURN OF MARRIAGES, BIRTHS  
AND DEATHS.

SECTION 1. The clerk of each city and town, (except in such cities and towns as choose a registrar, under the eleventh section of the twenty-first chapter of the General Statutes, in which cases the provisions of this act shall apply to the registrar,) for receiving or obtaining, recording, indexing and returning the facts relating to marriages, births and deaths occurring therein, shall be entitled to receive therefrom the sums following, viz. : for each marriage, fifteen cents; for each birth, thirty cents; for each death returned to him by the persons specified in sections two, three and four of chapter twenty-one of the General Statutes, twenty cents for each of the first twenty entries, and ten cents for each subsequent entry; for each death not so returned, but by him obtained and recorded, twenty cents.

SECTION 2. Chapter ninety-six of the acts of the year eighteen hundred and sixty-five, and so much of section seven of the twenty-first chapter of the General Statutes as is inconsistent herewith, are hereby repealed.

SECTION 3. This act shall take effect upon its passage.

[Approved April 7, 1866.]

# STATISTICAL NOSOLOGY

ADOPTED FOR REGISTRATION IN MASSACHUSETTS.

The following plan of a Nomenclature and Classification of Diseases does not essentially differ from that authorized by the Registrar-General of England, to be used in the preparation of the "Weekly Return of Births and Deaths in London," and is also, with slight modifications, identical with that embodied in a report drawn up by William Farr, Esq., M. D., of London, for the consideration of the International Statistical Congress which met at Paris in September, 1855; which report was printed in the Appendix to the Sixteenth Registration Report of the Registrar-General, England.

[NOTE.—This page and those that follow contain two lists of causes of death. The first,—that on the left side,—may be called the **TABULAR LIST**, and comprises all the heads which it is proposed to admit into the complete tables, and under which **ALL** deaths, from whatever cause, must eventually be distributed. It represents those diseases which, under the same terms, or terms strictly synonymous with them, are found in practice to occur most frequently. The **SUPPLEMENTAL LIST** is *subordinate* to the first, and contains the principal *special* diseases which it may be considered desirable to note. The tabular heads under which it is proposed to place such special cases, are shown by references in figures.]

## CAUSES OF DEATH.

TABULAR LIST.	SUPPLEMENTAL LIST.
CLASS I. ZYMOTIC DISEASES.	<i>Of Diseases of Special Character, or rarely fatal.</i>
ORDER 1.— <i>Miasmatic.</i>	
<p>I. 1.—1. Smallpox, . . . . .</p> <p>2. Measles, . . . . .</p> <p>3. Scarlatina, . . . . .</p> <p>4. Quinsy, . . . . .</p> <p>5. Croup, . . . . .</p> <p>6. Whooping Cough, . . . . .</p> <p>7. Typhus (and Infantile Fever,) . . . . .</p> <p>8. Erysipelas, . . . . .</p> <p>9. Metria (or Puerperal Fever,) . . . . .</p> <p>10. Carbuncle, . . . . .</p> <p>11. Influenza, . . . . .</p> <p>12. Dysentery, . . . . .</p> <p>13. Diarrhœa, . . . . .</p> <p>14. Cholera Infantum, . . . . .</p> <p>15. Cholera, . . . . .</p> <p>16. Ague, . . . . .</p> <p>17. Remittent Fever, . . . . .</p> <p>18. Rheumatism, . . . . .</p>	<p>I. 1.—1. Vaccination, not stated. Smallpox, (2d attack.) After vaccination. Erysipelas, &amp;c., after vaccination. Chickenpox. Miliaria.</p> <p>3. Angina maligna. Diphtheria.</p> <p>4. Mumps.</p> <p>7. Typhoid Fever.</p> <p>8. Phlebitis. Pyæmia. Hospital gangrene. Erythema.</p> <p>17. Yellow fever.</p> <p>18. Rheumatism, with pericarditis, or disease of heart.</p>

## CAUSES OF DEATH—(CONTINUED.)

TABULAR LIST.	SUPPLEMENTAL LIST.
CLASS I.—(Continued.)	
ORDER 2.— <i>Enthetic.</i>	
I. 2.—1. Syphilis, . . . . . 2. Stricture of Urethra, . . . . . 3. Hydrophobia, . . . . . 4. Glanders, . . . . .	I. 2.—1. Gonorrhœa. Purulent ophthalmia. 4. Necrosis, (usually from dissection wounds.) Malignant pustule.
ORDER 3.— <i>Dietic.</i>	
I. 3.—1. Privation, . . . . . 2. Purpura and Scurvy, . . . . . 3. Delirium tremens, } (Alcoholism), . 4. Intemperance, }	I. 3.—1. Want of Breast Milk. 2. Rickets. Bronchocele.
ORDER 4.— <i>Parasitic.</i>	
I. 4.—1. Thrush, . . . . . 2. Worms, &c., . . . . .	I. 4.—2. Porrigo. Scabies. Tape worm. Hydatids.
CLASS II. CONSTITUTIONAL DISEASES.	
ORDER 1.— <i>Diathetic.</i>	
II. 1.—1. Gout, . . . . . 2. Dropsy and Anæmia, . . . . . 3. Cancer, . . . . . 4. Noma (or Canker,) . . . . . 5. Mortification, . . . . .	II. 1.—3. Soft cancer. Sweep's cancer. Melanosis. Other kinds of cancer. Polypus (part not stated.) Lupus. 5. Bed-sore. Dry gangrene.
ORDER 2.— <i>Tubercular.</i>	
II. 2.—1. Scrofula, . . . . . 2. Tabes Mesenterica, . . . . . 3. Phthisis (Consumption of Lungs,) . 4. Hydrocephalus, . . . . .	II. 2.—1. Psoas abscess. Lumbar abscess. White swelling. Cretinism. 2. Tubercular peritonitis. 3. Hæmoptysis. 4. Tubercular meningitis.
CLASS III. LOCAL DISEASES.	
ORDER 1.— <i>Nervous System.</i>	
III. 1.—1. Cephalitis, . . . . . 2. Apoplexy, . . . . . 3. Paralysis, . . . . . 4. Insanity, . . . . . 5. Chorea, . . . . . 6. Epilepsy, . . . . . 7. Tetanus, . . . . . 8. Convulsions, . . . . . 9. Brain Diseases,* &c., . . . . .	III. 1.—1. Myelitis. 4. Monomania. Fright. Grief. Melancholia. Rage. 6. Hysteria. 8. Laryngismus stridulus. 9. Neuralgia. Ophthalmia. Otitis. Disease of spinal marrow. Necrencephalus (Softening of Brain.)

\* Other diseases of the brain, or diseases of the nervous system, not otherwise distinguished, are referred to this head. *Mutatis mutandis*, the note applies to the corresponding heads in other Orders of this Class.

CAUSES OF DEATH—(CONTINUED.)

TABULAR LIST.	SUPPLEMENTAL LIST.
<b>CLASS III.—(Continued.)</b>	
<b>ORDER 2.—Organs of Circulation.</b>	
III. 2.—1. Pericarditis, . . . . . 2. Aneurism, . . . . . 3. <i>Heart Diseases,* &amp;c.,</i> . . . . .	III. 2.—1. Carditis. Endocarditis. 3. Hypertrophia. Angina pectoris. Syncope. Arteritis. Hydropericardium.
<b>ORDER 3.—Respiratory Organs.</b>	
III. 3.—1. Epistaxis, . . . . . 2. Laryngitis, . . . . . 3. Bronchitis, . . . . . 4. Pleurisy, . . . . . 5. Pneumonia, . . . . . 6. Asthma, . . . . . 7. <i>Lung Diseases,* &amp;c.,</i> . . . . .	III. 3.—2. Edema glottidis. 4. Empyema. Hydrothorax. Diaphragmitis. Pneumothorax. 5. Pulmonary apoplexy. 6. Grinder's Asthma. Miner's Asthma. Emphysema.
<b>ORDER 4.—Digestive Organs.</b>	
III. 4.—1. Gastritis, . . . . . 2. Enteritis, . . . . . 3. Peritonitis, . . . . . 4. Ascites, . . . . . 5. Ulceration of Intestines, . . . . . 6. Hernia, . . . . . 7. Ileus, . . . . . 8. Intussusception, . . . . . 8. Stricture of Intestines, . . . . . 10. Fistula, . . . . . 11. <i>Stomach Diseases,* &amp;c.,</i> . . . . . 12. <i>Pancreas Disease,* &amp;c.,</i> . . . . . 18. Hepatitis, . . . . . 14. Jaundice, . . . . . 15. <i>Liver Disease,* &amp;c.,</i> . . . . . 16. <i>Spleen Disease,* &amp;c.,</i> . . . . .	III. 4.—1. Glossitis. Stomatitis. Pharyngitis. Oesophagitis. 5. Perforation of— 6. Congenital. Femoral. Inguinal. Scrotal. Umbilical. Ventral. 7. Constipation. 11. Dyspepsia. Pyrosis. Gastralgia. Hæmatemesis. Mælena. Hæmorrhoids. 14. Gall-stones. 15. Cirrhosis.
<b>ORDER 5.—Urinary Organs.</b>	
III. 5.—1. Nephritis, . . . . . 2. Ischuria, . . . . . 3. Nephria, (Bright's disease,) . . . . . 4. Diabetes, . . . . . 5. Calculus (Gravel, &c.,) . . . . . 6. Cystitis, . . . . . 7. <i>Kidney Disease,* &amp;c.,</i> . . . . .	III. 5.—6. Cystirrhœa. 7. Diuresis. Hæmaturia. Dis. of prostate. Dis. of bladder.
<b>ORDER 6.—Generative Organs.</b>	
III. 6.—1. Ovarian Dropsy, . . . . . 2. <i>Disease of Uterus,* &amp;c.,</i> . . . . .	III. 6.2. Orchitis. Hydrocele. Hysteritis, (Inflammation of Womb.) Ovarian tumor. Uterine tumor. Polypus uteri.

\* See Note under III. 1.—9.

## CAUSES OF DEATH—(CONTINUED.)

TABULAR LIST.	SUPPLEMENTAL LIST.
CLASS III.—(Continued.)	
ORDER 7.— <i>Organs of Locomotion.</i>	
III. 7.—1. Arthritis, . . . . . 2. Joint Disease,* &c., . . . . .	III. 7.—1. Ostitis. Periostitis. 2. Fragilitas ossium. Mollities ossium. Caries. Necrosis. Exostosis.
ORDER 8.— <i>Integumentary System.</i>	
III. 8.—1. Phlegmon, . . . . . 2. Ulcer, . . . . . 3. Skin Diseases,* &c., . . . . .	III. 8.—1. Abscess (part not stated). Boil. Whitlow. 3. Roseola. Urticaria. Eczema. Herpes. Pemphigus. Ecthyma. Impetigo. Psoriasis. Ichthyosis. Tumor (part not stated.)
CLASS IV. DEVELOPMENTAL DISEASES.	
ORDER 1.— <i>Developmental Diseases of Children.</i>	
IV. 1.—1. Stillborn, . . . . . 2. Premature Birth and Infantile Debility, . . . . . 3. Cyanosis, . . . . . 4. Spina Bifida, . . . . . 5. Other Malformations, . . . . . 6. Teething, . . . . .	IV. 1.—2. Atelectasis. 5. Anus imperforatus. Cleft palate. Idiocy.
ORDER 2.— <i>Developmental Diseases of Women.</i>	
IV. 2.—1. Paramenia, . . . . . 2. Childbirth. (See Metria I. 1.—9.)	IV. 2.—1. Chlorosis. Climacteria. Menorrhagia. 2. Miscarriage. Abortion. Puerperal mania. Phlegmasia dolens. Cæsarian operation. Extra-uterine foetation. Flooding. Retention of placenta. Presentation of placenta. Deformed pelvis. Breast abscess.
ORDER 3.— <i>Developmental Diseases of Old People.</i>	
IV. 3.—1. Old Age, . . . . .	
ORDER 4.— <i>Diseases of Nutrition.</i>	
IV. 4.—1. Atrophy and Debility, . . . . .	

\* See Note under III. 1.—9.

## CAUSES OF DEATH—(CONCLUDED.)

TABULAR LIST.	SUPPLEMENTAL LIST.
CLASS V. VIOLENT DEATHS.	
ORDER 1.— <i>Accident or Negligence.</i>	
V. 1.—1. Fractures and Contusions,* . . . 2. Wounds, . . . . . 3. Burns and Scalds, . . . . . 4. Poison, . . . . . 5. Drowning, . . . . . 6. Suffocation, . . . . . 7. Otherwise, . . . . .	
ORDER 2.— <i>In Battle.</i>	
ORDER 3.— <i>Homicide.</i>	
ORDER 4.— <i>Suicide.</i>	
V. 4.—1. Wounds, . . . . . 2. Poison, . . . . . 3. Drowning, . . . . . 4. Hanging, . . . . . 5. Otherwise, . . . . .	
ORDER 5.— <i>Execution.</i>	
V. 5.—1. Hanging, . . . . .	
Violent Deaths, not classed, . . . . Sudden, cause unascertained, . . . .	

\* Including "Railroad Accidents."

NOTE.—Cases of "infantile fever" are classed with those of typhoid, relapsing, and other continued fevers, under one name "typhus." Cases of "rheumatic fever" are classed with "rheumatism;" of "hemorrhage," and "abscess," with the diseases of the organs affected. Cases of "neglect" and "cold," except when the result of privation, (Class I. 3.—1,) are placed (with notes) under deaths by "accident or negligence," (V. 1.—7.) As "stricture of the urethra" is almost invariably the result of gonorrhoea, it is classed as I. 2.—2.







THIRTIETH  
ANNUAL REPORT  
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BOARD OF EDUCATION,  
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THIRTIETH ANNUAL REPORT  
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BOSTON:  
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**ERRATUM.**—In the abstract of School Returns the heading of the first two columns of the Recapitulation, p. liv., instead of "No. of Teachers in Public Schools, Summer, Winter," should be "No. of Teachers in Public Schools including Summer and Winter Terms."

# ANNUAL REPORT.

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The Board of Education respectfully submit to the legislature of the Commonwealth their Thirtieth Annual Report:—

The statistics which accompany it, prepared under the careful superintendence of the Assistant-Secretary, exhibit the actual and comparative condition of the Public Schools in every town in the State. To some, they will afford gratification; to others, they will serve as a warning, according to their relative rank in the tables presented. On the whole, the State may feel a just pride in the condition of its educational interests. Everywhere they have been advancing and have kept pace with her general prosperity. As long as this can be truly said, we may all feel sure that her welfare and fame rest on a firm foundation, and that her future course will be onward and upward in civilization and prosperity.

The Report of the Secretary of the Board will show how faithfully and successfully he has discharged his duties the past year. The Board have abundant reason to be satisfied with his valuable services, and the people may feel that this great trust is in safe and competent hands. The Assistant-Secretary, the Treasurer and the Agent have all brought to the performance of their respective duties distinguished ability and fidelity, and all the means and instrumentalities at the disposal of the Board are in a healthy and encouraging condition.

Mr. Northrop, Agent of the Board for the last eleven years, has been elected to the position of Secretary of the Board of Education for the State of Connecticut, and will enter upon his new duties at an early day. The Commonwealth will lose a gentleman of high character and culture, an able, experienced and faithful friend of education, eminently fitted for the



positions he has filled here, and is to fill in our sister State. He carries with him our sincerest wishes for his happiness and success in the chosen field of his future labors.

The Twenty-Fourth Annual Report contains the names of all the teachers employed in the Normal Schools down to the year eighteen hundred and sixty, with the term of service of each one. For the purpose of future reference, the list has been extended to the close of the current year, and is herewith submitted.

*Of the Framingham School.*

	Commenced Service.	Ended Service.
<i>Principals.</i>		
George N. Bigelow, A. M., . . . . .	Sept., 1855,	Sept., 1866.
Annie E. Johnson, . . . . .	1866.	-
<i>Assistants.</i>		
Nancy J. Bigelow, . . . . .	Sept., 1859,	Sept., 1866.
Frances E. Wadsworth, . . . . .	1859,	1861.
Martha E. Young, . . . . .	1860,	March, 1863.
Annie E. Johnson, . . . . .	1861,	Sept., 1864.
Frances A. Rich, . . . . .	1862.	-
Ellen Hyde, . . . . .	March, 1863.	-
E. Gertrude French,* . . . . .	October, 1863,	March, 1864.
Ada B. Sturtevant, . . . . .	Sept., 1864,	April, 1866.
Annie E. Johnson, . . . . .	March, 1865,	Sept., 1866.
E. Gertrude French, . . . . .	Sept., 1864,	1866.
Fannie Whitcomb, . . . . .	1865,	1866.
Charlotte C. Stearns, . . . . .	1866.	-
Elizabeth J. Hasbrouck, . . . . .	1866.	-
Abby R. Worcester, . . . . .	1866.	-
Amelia C. Davis,* . . . . .	1866.	-
<i>Teacher of Drawing.</i>		
Christine Chaplin, . . . . .	Sept., 1866.	-
<i>Teacher of Music.</i>		
O. B. Brown, . . . . .	-	-

\* Assistant pupil.

*Of the Westfield School.*

<i>Principal.</i>		
John W. Dickinson, A. M., . . . . .	August, 1856.	-
<i>Assistants.</i>		
J. C. Greenough, . . . . .	-	-
Joseph G. Scott, . . . . .	Sept., 1861.	-

*Of the Westfield School—Continued.*

	Commenced Service.	Ended Service.
<i>Assistants—Continued.</i>		
Helen M. Ray, . . . . .	March, 1861,	August, 1861.
Melvina Mitchell, . . . . .	1862.	—
Adelaide V. Badger, . . . . .	1864.	—
<i>Teacher of Drawing.</i>		
Mrs. J. W. Dickinson, . . . . .	March, 1864.	—
<i>Teacher of Music.</i>		
J. G. Scott, . . . . .	—	—

*Of the Bridgewater School.*

<i>Principal.</i>		
Albert G. Boyden, . . . . .	Sept., 1860.	—
<i>Assistants.</i>		
Charles F. Dexter, . . . . .	March, 1860,	May, 1863.
James H. Schneider, A. B., . . . . .	Sept., 1860,	Sept., 1863.
Austin Sanford, . . . . .	June, 1863,	July, 1864.
Solon F. Whitney, A. M., . . . . .	Sept., 1863,	March, 1866.
Charlotte A. Comstock, . . . . .	May, 1864,	July, 1866.
George H. Martin, . . . . .	Sept., 1864.	—
Ellen G. Brown, . . . . .	March, 1866.	—
Emeline F. Fisher, . . . . .	1866.	—
Elisha H. Barlow, A. B., . . . . .	Sept., 1866.	—
Eliza B. Woodward, . . . . .	1857.	—
<i>Teachers of Music.</i>		
O. B. Brown, . . . . .	Sept., 1860,	Sept., 1864.
Hosea E. Holt, . . . . .	1864.	—

*Of the Salem School.*

<i>Principals.</i>		
Prof. Alpheus Crosby, . . . . .	October, 1857,	July, 1865.
Daniel B. Hagar, A. M., . . . . .	Sept., 1865.	—
<i>Assistants.</i>		
Martha Kingman Crosby, . . . . .	Sept., 1854,	July, 1865.
Sarah R. Smith, . . . . .	March, 1856,	Jan., 1864.
Oliver P. Bray, . . . . .	1858,	July, 1861.
Ellen M. Dodge, . . . . .	1858.	—
Mary E. Webb, . . . . .	1858.	—
Anna M. Brown, . . . . .	Sept., 1860,	July, 1862.

*Of the Salem School—Continued.*

	Commenced Service.	Ended Service.
<i>Assistants—Continued.</i>		
Caroline J. Cole, . . . . .	Sept., 1860.	-
Elizabeth Carleton, . . . . .	1860,	July, 1863.
Mary B. Smith, . . . . .	Feb. 1861,	Jan., 1864.
Josephine A. Ellery, . . . . .	1861,	July, 1865.
Mary C. Spofford, . . . . .	Sept., 1863,	1865.
Mary E. Godden, . . . . .	1864,	July, 1866.
Mary A. Plumer, . . . . .	1864.	-
Ellen A. Chandler, . . . . .	1865.	-
Mary E. Nash, . . . . .	1865,	July, 1866.
Isabel C. Tenney, . . . . .	1865.	-
Sophia O. Driver, . . . . .	July, 1866.	-
<i>Teachers of Music.</i>		
Lucy Kingman, . . . . .	Sept., 1860,	Jan., 1861.
Clara M. Loring, . . . . .	Feb., 1861,	July, 1863.
O. B. Brown, . . . . .	Sept., 1863.	-
<i>Occasional Assistant.</i>		
Mary J. Thayer, . . . . .	-	-

The State Normal Schools have been unusually prosperous during the past year; the average attendance in them has been considerably increased, and the demand upon them for trained teachers for the Public Schools has been greater than could be supplied. It is not pretended that all the graduates make successful teachers, but it is certain that their chances of success are greatly increased by the normal training they receive. The people in every part of the State appreciate more and more the advantages of employing these trained teachers. They are eagerly sought for in other States, where they command much larger salaries than are paid in Massachusetts, and some of our best teachers are thus induced to leave the State after their required term of service is completed here. It is safe to say they are generally successful. The Normal Schools afford the Commonwealth a favorable opportunity to discharge an agreeable duty to her enterprising daughters, with the certainty of receiving back in their faithful services the most liberal compensation.

The average expense to the State of each pupil during the year has been less than fifty dollars. This includes the entire cost of care of buildings, of instruction and school-books. The

English course of instruction in these schools is quite equal to that in many of our colleges, and far better than has been afforded to females in our private academies. During the past year nineteen males have been admitted to the schools, and eight have graduated. The number of females admitted during the same time is two hundred and forty-one—the number of graduates one hundred and ninety-six. They are now crowded with pupils, and the number of applicants in some of the schools is greater than can be accommodated. The increase of pupils of all ages in the Public Schools during the year has been about five thousand, and the increase in the average attendance nearly six thousand. Two hundred and thirty-one additional teachers have been employed during the year. Of this number, two hundred and seventeen were females, and fourteen were males. The inquiry naturally arises, how shall this increasing demand for trained teachers be supplied? The answer can be given without hesitation or delay. It costs the Commonwealth about two hundred dollars annually to support each person in her reformatory institutions. It costs less than fifty to prepare a well trained teacher for her Public Schools,—the great antidote for crimes and pauperism.

The State must enlarge the schools she now has, or establish new ones in favorable localities. The industrial productions of the great county of Worcester during the year 1865 were more than seventy-six millions of dollars. She has a population of one hundred and sixty-two thousand nine hundred and twenty-three. The county contains seven hundred and seventy-two Public Schools, in which were employed during last year more than one thousand teachers, and in which there were during the summer thirty-one thousand four hundred and forty-four different pupils. There were returned in the whole county but two thousand four hundred and fifty-three children, between the ages of five and fifteen years, that did not attend the Public Schools a portion of the year. So much have the Public Schools advanced within a few years, that this portion of the State, formerly so distinguished for its Academies and Private Schools, has returned but five incorporated, and but seventy-four unincorporated Academies and Private Schools in the whole county, in which there was an average attendance last year of only two thousand two hundred and twelve pupils. So that it appears that out of the thirty-three thousand eight hundred and ninety-seven children in Worcester

County, between the ages of five and fifteen years, nearly all are accounted for as being in attendance a part of the year, either in her Public or Private Schools. Doubtless other counties might show as good a record.

The Commonwealth is not doing too much for education, nor is the public interest in the Public Schools so great as the private zeal of her people. Our State legislatures, notwithstanding our excellent laws, are not so devoted or so faithful in providing the means of public instruction as are the towns and the people in the use of them. It is not perhaps desirable to increase the school fund, so as to relieve the towns of the chief burden of education. The privileges of the Public Schools will be more appreciated if the people contribute annually to their support. This is evident from the large amounts raised annually in the State, and also from the extraordinary increase of appropriations in nearly all the towns during the past few years. Almost two millions of dollars were raised and appropriated last year for public instruction, and the increase of appropriations for the last two years has been about one-quarter of that sum.

The support of the Normal Schools has been derived from the income of the school fund, devoted by law to that purpose. The amount of that fund is now limited to two millions of dollars, and can only be increased each year, as things now are, by the amount of the surplus of receipts over expenditures. It cannot be reasonably expected by the most economical management that any large additions can be realized in the present state of prices, with the constantly increasing demands upon this portion of the fund. The two hundred and fifty thousand children in our beloved Commonwealth would never understand the wisdom of denying to them the necessary advantages of education, in order to increase a public fund by the accumulation of simple interest for the benefit of future generations. The salaries of teachers in the Normal Schools are now less than is paid in many of our Public Schools, and all the expenses are as much reduced as the public interest will justify. It will therefore be seen that the enlargement of the present schools, or the establishment of new schools to meet the public exigency, must be made out of appropriations from the treasury.

The present condition of the Normal Schools will appear from the following table :—

*Statistics showing the condition of the State Normal Schools.*

						Framingham.	Westfield.	Bridgewater.	Salmon.	Total.
<i>Admissions.</i>										
First Term.	{ Males,	.	.	.	.	—	1	8	—	9
	{ Females,	.	.	.	.	25	34	15	85	109
	{ Total,	.	.	.	.	25	85	23	85	118
Second Term.	{ Males,	.	.	.	.	—	2	8	—	10
	{ Females,	.	.	.	.	35	36	12	49	132
	{ Total,	.	.	.	.	35	88	20	49	142
Total for the year, . . .						60	73	43	84	260
<i>Average age on admission.</i>										
Males, . . . . .						—	19.9	21.7	—	—
Females, . . . . .						18.4	18.4	19.	18.41	—
General, . . . . .						18.4	18.5	20.9	18.41	—
<i>Pupils in attendance.</i>										
First Term.	{ Males,	.	.	.	.	—	10	19	—	29
	{ Females,	.	.	.	.	112	91	59	136	398
	{ Total,	.	.	.	.	112	101	78	136	427
Second Term.	{ Males,	.	.	.	.	—	7	22	—	29
	{ Females,	.	.	.	.	107	98	53	137	395
	{ Total,	.	.	.	.	107	105	75	137	424
For year.	{ Males,	.	.	.	.	—	10	27	—	37
	{ Females,	.	.	.	.	148	131	73	185	538
	{ Total,	.	.	.	.	148	141	100	185	575
<i>Graduated during the year.</i>										
February,	{ Males,	.	.	.	.	—	8	2	—	5
	{ Females,	.	.	.	.	26	16	10	14	66
	{ Total,	.	.	.	.	26	19	12	14	71
July, . .	{ Males,	.	.	.	.	—	2	1	—	3
	{ Females,	.	.	.	.	25	14	6	25	70
	{ Total,	.	.	.	.	25	16	7	25	73
Total for the year, . . .						51	35	19	89	144

During the past year the Board of Education has placed one of the State Normal Schools under the charge of a female. Thus far the experiment has been eminently successful.

There are now seven thousand five hundred and ninety-eight teachers regularly employed in the Public Schools in the Commonwealth, and of these one thousand and eighty-six (1,086) are males, and six thousand five hundred and twelve (6,512) are females.

The percentage of female teachers is rapidly increasing, while the number of male teachers is diminishing. The change has been gradual, and entirely in harmony with the views frequently expressed by this Board in previous years, but it has been mainly the result of a growing public opinion throughout the State. It is not necessary or of much importance to discuss the relative merits of male and female teachers. The verdict of the people is already rendered in favor of employing females, all things considered, except in schools consisting mainly of the larger scholars. Our example in this respect has been followed in other States, and it now appears certain that the education of youth in the Public Schools of this country will soon be confided chiefly to females. Our young men are attracted to other fields of enterprise more remunerative and congenial; the period allowed for education is short; pupils leave school at an early age; inexorable business demands that young men shall enter the store and counting-room in boyhood, before they are old enough or mature enough to perform the duties required of them, or to resist the temptations to evil which beset them. School education has thus been crowded back into the period of life when the influence of woman is more healthful and pervading, and she is proving herself equal to the great trust. It has opened to the daughters of the land a new and attractive field of enterprise, where faith and labor will bestow their choicest blessings upon the cause of popular education and universal freedom.

Since our last report the law establishing State scholarships has been repealed. The Board were led to favor this measure. The law was passed in 1853, "to aid in qualifying principal teachers for the High Schools of the Commonwealth," and had been in operation for twelve years. It was found impossible, under that law, to arrange the claims of scholars so that every portion of the State should have its just share of the State aid, and the election often fell on those who were undeserving of the assistance rendered.

The sixth section of this Act provided as follows :—

"The Board shall at the end of each collegiate year, not exceeding four, upon his producing a certificate from the president of his college that he has been faithful in his studies, exemplary in his deportment, and ranks in scholarship among the first half of his class, pay to him one hundred dollars."

It was found that less than half the scholars selected according to law, at the close of the first year, sustained the rank required to receive the aid. Their places were generally supplied by applicants who resided in the cities or the wealthier portions of the Commonwealth; so that a large majority of the scholarships were filled by young men in the eastern section of the State. The chief objection to the law was, that it failed to supply the High Schools with teachers. The course of instruction in our colleges does not particularly prepare the students to become successful teachers in the Public Schools. They do not receive the necessary drill in elementary branches, and they receive no instruction whatever in the art of teaching. It is not easy to see how an extended course of study in the higher mathematics or in the dead languages, to the neglect of modern languages and the practical sciences, can prepare a young man for business life, or fit him to impart knowledge in the elementary branches of school education. The people already look more to the Common Schools than to the universities for that practical wisdom which leads to the successful development of industrial wealth. The school committees everywhere prefer trained or experienced teachers for the High Schools, and the law, for the purpose it was enacted, was a failure.

If the Commonwealth would provide some way to assist indigent and worthy young men to receive collegiate educations, great good might be done, and every friend of education would rejoice. This has not, however, become a part of our system of public instruction. It is very doubtful if the establishment of scholarships would be the best way of accomplishing this purpose. It would be far better to adopt some plan to open the doors of these institutions to all the youth of the Commonwealth. Then all odious distinctions would be avoided, and our present system of education be made broad enough to meet the wants of all the youth of the State. It would not require very large endowments, added to what has been already done by private munificence, to accomplish this great end. Every friend of Education will hope that some benevolent person or class of persons may devote portions of their princely fortunes to this purpose. The course of collegiate studies could then be so modified and improved, as to be best adapted to the wants of the people and the times, and become the crowning glory of our system of education. May the



time soon come when free schools and free colleges may be established in every State of the Union, and the blessings of education be made universal throughout the land.

Some efforts have been made during the past year to organize a National Bureau of Education for the purpose of collecting and presenting to the people statistics showing the condition of education in our own country and in foreign nations. There can be no doubt, if the people could learn through some official and reliable source how intimately education and prosperity are linked together, that it would lead to the general establishment of free Public Schools in all the States. Then the people would understand more of government and have a clearer conception of their true interests, and would be less likely to be led blindly by selfish and designing men.

If the New England system of free schools had been understood and adopted a few years ago in all the States of the Union, the country would undoubtedly have been saved from a terrible sacrifice of life and property, to conquer traitors and suppress rebellion. If, in the future, we hope for lasting peace, there can be no better security than that which is founded on equal rights and universal education.

The Board of Education have cheerfully given their approval to the general plan proposed, and have aided, as far as they could, the efforts to establish the Bureau.

While we congratulate the people of Massachusetts on the general excellence of their Public Schools, and never cease to commend the noble spirit which animates the towns in all their efforts for general education, we are not insensible that great deficiencies and errors remain to be corrected, before we can claim perfection, or rest satisfied even with our present condition.

Many persons of sound judgment and extensive observation have come to regard the self-reporting system, widely adopted in our Public Schools, as of very doubtful propriety. The objection is that it encourages deceit and falsehood and tends to demoralize pupils. The success of a single pupil in improving his rank by a false report is a very dangerous example for the whole class. The spirit of emulation is thus brought to the aid of temptation. It is a great trial for a spirited young scholar to carry home to ambitious parents a low report, when a little deceit, such as others practise, will save him from mortification. Deceit and falsehood should never triumph over honesty in the school-room.

It is important to develop in scholars a high standard of honor, and they should feel that they can be trusted ; but there should be no system in schools where dishonesty has advantages over truth. Unless the self-reporting system is carefully guarded it will lead to great abuses . If all false returns could be discovered and corrected, and timely punishment inflicted, the danger would be greatly reduced ; but the great mass of teachers have not the time or the ability for investigating and detecting frauds. It is certainly far better for the teacher to make up his own reports, however imperfect his materials may be, than to tolerate a system which may undermine the morals of his pupils, by rewarding falsehood and degrading truth. Knowledge will be of little advantage to the coming generations without character ; and while we enlighten, we should also fortify and strengthen the youthful mind.

There can be no doubt of the absolute necessity of *system* and *discipline* in our Public Schools ; but it is also true that too much form and ceremony will greatly impair the benefits of study. School exercises should not ever be so mechanical as to become a mere grinding process, where all the pupils are made to work in an iron collar cast in precisely the same mould. Children should be educated in this country to become free and independent men and women. It is not drill alone which they need ; they must be tuned and toned for the duties of life ; be developed in character as well as in knowledge. They should learn to walk alone and be fitted to bear burdens ; to observe things and draw conclusions for themselves. Whatever best promotes these ends, will be most valuable in our system of education. If the tendency of things anywhere is towards such rigid forms, it cannot be watched by the friends of education too carefully. School life is not camp life, and no mere machinery can move the human mind.

It is also true that whatever system of school government operates really to degrade a pupil in his own estimation or in that of others, should not be commended. School government should no more be despotic than any government. Whenever a teacher relies upon mere force to control scholars, instead of that influence derived largely from affection and respect, and inspires fear of punishment rather than a desire for improvement, his usefulness may well be considered at an end ; and when a pupil is found too vicious to appreciate the law of kindness, it is far better that such

a person should leave the school, than that the school should lose the influence of that law. We should be very slow to acknowledge that the large majority of scholars in our schools should be exposed to be treated like criminals, because there are a few who deserve such treatment. The best course lies in the happy medium, with just enough of force to insure obedience, and at the same time harmonize with those other influences of trust and confidence so important in training an independent mind.

There is great reason to doubt whether the modern practice of congregating large numbers of pupils in one building, is wise or prudent, even in our most populous places. The erection of grand and lofty school-houses may be evidence of good taste and public enterprise, and they may stand as monuments of the faith of our people in popular education; but they may not best promote the health, happiness or improvement of the thousands of pupils who are crowded into those great temples of education. The true friends of free schools will never be gratified with any demonstrations of public favor which unnecessarily increase the public burdens and induce a withholding of sympathy and confidence by the masses of the people. Though large and costly edifices may be erected in the cities without apparent injury, if the example should be followed in the country towns, it would appear extravagant and unwise, and the cause of universal education would suffer. While everything should be done everywhere for the comfort and convenience of the scholar and to multiply the blessings and advantages of the school-room, it is best that attempts at merely architectural display should be confined to those places where the people justify them, without creating any conviction in the public mind that it is a part of our Public School system which it is wise to imitate. It is difficult to see how it can be made necessary, wise or prudent anywhere in our country to crowd together eight hundred or a thousand children of all ages and both sexes into a single building five or six stories high, for purposes of education, and there is reason to fear that in the end this growing practice will tend to produce a re-action in the public mind. The calculating public will be brought to believe that the public money is not expended for educational purposes, and that the children will be better off in safer places with purer air and more parental government. It may not be easy to answer these objections. The subject is worthy of careful consideration and the most deliberate judgment.

Another great defect in our system of education is, that in most of our schools we attempt to do too much and to go over too much ground in the limited time devoted to school life ; therefore the elementary branches are neglected and the foundations of good education are superficially laid. The ornamental and higher branches of study, as they are called, have peculiar charms for the teacher and the pupil, and the child's progress is often measured not by his thorough knowledge of elementary principles, but by the number of advanced studies he has pursued. Our Public Schools are not intended to supply the places of universities or take a very broad survey of the whole field of human knowledge. They are rather preparatory, to provide for the people those elements of knowledge everywhere essential in the journey of life, and to point the sure way to future attainments.

When a young man can read, and spell, and write and reckon well, he has a good education ; it would be difficult to find any higher or more useful attainment in the whole realm of study. Without these, any great proficiency in learning is impossible ; with them, the way is open to the broadest and most comprehensive acquirements. They should be made the first and great aim through the entire course of school education, and the committees and teachers of all our schools, and especially the High Schools, should feel and understand that if these are neglected or omitted, their most important duties are unperformed.

Notwithstanding these things the Commonwealth has abundant evidence of the inestimable advantages of her system of popular education. Her industrial productions during the year ending May 1st, 1865, were more than five hundred and seventeen millions of dollars, earned on an invested capital of about one hundred and seventy-four millions. She has turned out from her soil and manufacturing establishments more than one and a half million of dollars a day, averaging about fifteen hundred dollars annually to each working or producing person.

The result must be gratifying to every friend of our educational system. It is true that industry has been greatly aided by the use of machinery. The work accomplished has been more than seven times as much as could have been done by human hands. But who invented the labor-saving machines ? Certainly our practical mechanics, who have received their education at the Public Schools. The elementary branches taught in all our

Grammar Schools are found sufficient to awaken genius and prepare the way to the highest attainments. Our ripest scholars and most cultivated men discover planets and write learned books on theology and science ; but the unfettered mind of the practical mechanic, stimulated by a desire for great success, applies itself to the invention of labor-saving machinery, and fills every department of industry with the fruits of his experiments. If we desire to increase the productions of industry, we must educate the people ; spread broadcast the seeds of knowledge and we shall reap a rich harvest of inventive genius and skilful labor.

A. H. BULLOCK.

WM. CLAFLIN.

DAVID H. MASON.

JAMES FREEMAN CLARKE.

JOHN P. MARSHALL.

ABNER J. PHIPPS.

WILLIAM RICE.

EMORY WASHBURN.

SAM'L T. SEELYE.

JOHN D. PHILBRICK.

*Report of the Visitors of the Framingham Normal School.*

The Visitors of the State Normal School at Framingham, are happy to report that the school, in all its departments, has been in a prosperous condition during the last year, and has fully sustained its former reputation for efficiency and good teaching. There have been 158 members of the school during the year. 26 pupils graduated in February last, and 25 in July, and 107 are now in attendance. The average ages of the advanced class are 20.6 years; of the first, 19.7 years; the second, 19.7 years; the third, 19 years; and of the fourth, 18.2 years.

Eight of the States, and eleven of the counties of this State are represented by these, viz. :—

Maine, 3; Massachusetts, 139; New Hampshire, 9; Illinois, 1; New York, 1; Michigan, 1; Connecticut, 1; Rhode Island, 2, and Sandwich Islands, 1.

Middlesex, 63; Worcester, 46; Suffolk, 8; Norfolk, 6; Plymouth, 6; Hampden, Franklin, Hampshire, and Bristol each, 2; Dukes and Barnstable each, 1.

The towns and cities represented are as follows :—

Framingham, 15; Worcester, 8; Newton, 4; Northborough, 8; Marlborough, 6; Boston, 5; Westborough, Milford, Hudson, Fitchburg, Wayland, Holliston, East Abington, Chelsea, and Bedford each, 3; Natick, 4; Hopkinton, Concord, Needham, Holyoke, Wrentham, Braintree, Orange, Plymouth, Millbury, Blackstone, Holden, Princeton, Clinton, Bolton, Upton, Stow and Attleborough each, 2; Weston, Acton, Charlestown, Grantville, Cambridgeport, Townsend, Dover, Medfield, Chilmark, Provincetown, Ware, Monson, Halifax, Shrewsbury, Grafton, Petersham, Northbridge, Southborough, Leominster, Templeton, Hubbardston, Ashburnham, and Brookfield each, 1.

The occupations of the parents of these pupils, so far as ascertained, are as follows, viz. :—Farmers, 60; merchants, 20; mechanics, 8; manufacturers, 5; carpenters, 4; boot and shoe makers, 4; ministers, 8; physicians, 8; masons, 4; clerks, 2; tailors, 3; lumber dealers, 2; collectors, 2; brokers, 2; machinists, 2; blacksmiths, 2; sergeant-at-arms, 1; captain U. S. army, 1; hotel keeper, 1; ship-owner, 1; baker, 1; butcher, 1; stable keeper, 1; dentist, 1; postmaster, 1; engineer, 1; teacher, 1;

agent board of education, 1 ; laborer, 1 ; grain dealer, 1 ; pencil maker, 1 ; architect, 1 ; sugar planter, 1 ; sea captain, 1 ; road commissioner, 1 ; factory overseer, 1 ; lawyer, 1.

The health of the pupils has been such as to justify the character for salubrity of the locality of the school, and creditable to the care and oversight which have been observed in respect to their study and out-door exercise.

Several important changes have taken place in its corps of teachers, which it is proper to notice in detail. Miss Sturtevant's health failed during the first term of the year, and the school had cause to regret the loss consequent upon her resignation. In consequence of the change in the organization of the school which will be hereinafter noticed, Mr. Bigelow's connection with it terminated at the close of the summer term. But the regret that the friends of education in the State might have felt at losing from the school the benefit of his long experience and acknowledged skill as a teacher, has been greatly relieved by the circumstance that he has thereby only been transferred from one field of usefulness to another, in which he is now successfully laboring in the noble profession to which he early devoted himself. Miss Bigelow and Miss Whitcomb resigned their places at the close of the summer term. The length of time for which the school had enjoyed the advantages of Miss Bigelow's instruction, and the high qualifications of both for the places which they had filled in its corps of teachers, give the Board cause to regret their resignation. They carry with them the kind wishes of the Visitors, and the hope that their services will not be lost to the cause of education.

Another of the late corps of teachers, Miss E. Gertrude French, with whom the Visitors had parted at the close of the last term, with an expectation of her resuming her place at the commencement of the present, was stricken with disease during the vacation, and news of her death has reached them while this Report was being prepared. It is not for the Visitors to speak of the deep sorrow which this event has caused to the many friends of Miss French in the school and elsewhere, but they would be doing injustice to their own appreciation of her claims upon their confidence and respect, if they forbore to recognize them here. Her qualifications for the place she had been filling in the school were of a high order. She had a calm and serene temperament, a

strong and cultivated intellect, and a sound and well-balanced judgment. Her attainments were liberal, and her tact and facility in communicating instruction and creating an interest in her pupils, had been witnessed by all connected with the school. These, added to the sweetness of her disposition, and firmness of purpose wherever duty called her, gave assurance that, if her life had been spared, she would have graced and dignified the calling of a teacher, to which on her graduation from the school she had earnestly devoted herself, and in which she had already achieved success.

These changes required the selection of new teachers to supply the vacancies thereby occasioned, and the Visitors would congratulate the Board that the corps, as now constituted, have proved worthy of the places which they so acceptably fill.

It is unnecessary to remind the Board that the improved condition of the schools in the Commonwealth, and the fact that more than seven out of eight of all the teachers employed in them were women, had for some time suggested the inquiry, whether one of the schools, which the State had established, and was maintaining for educating and preparing female teachers for these Primary and Grammar Schools, might not with propriety be put under the charge of one of that sex. The more the subject was examined, the more clear it became in the minds of the Board, that, even if it was to be regarded in the light of an experiment, it ought to be tried. The situation of the Normal School at Framingham, in a quiet, rural district, suggested that, at once, as the one in which the change, in this respect, might with the most propriety be made. And the measure met the unanimous action of the Board. They were very fortunate in securing for the place of Principal of the school, Miss Annie E. Johnson, who had already established for herself the character of an accomplished teacher, in the place of assistant in the same school. She had shown such evidence of her general fitness to take charge of it, that she was unanimously elected to the place, and has performed its duties for the current term, to the entire acceptance and approbation of the Visitors. Her assistants are Mrs. Frances A. Rich, Miss Ellen Hyde, Miss Charlotte C. Stearns, Miss Abby E. Worcester, Miss Elizabeth J. Hasbrouck, with Miss Amelia Davis, a pupil, who is employed a part of the time as teacher, and Miss Christina Chaplin, who is employed as a teacher of drawing. Mr. Brown continues to instruct in music. With this corps of teachers, the



school has been an acknowledged success during the current term, and has given every reasonable assurance that the feasibility and expediency of the present system of management are no longer to be regarded in the light of an experiment. The Visitors believe that all that the Board anticipated in favor of the change has been accomplished. They would venture also to hope, that with this success will come a corresponding conviction in the public mind, that if the work of training and educating the youth of the Commonwealth be worthy of the care and consideration of the government, and is of sufficient importance to call for legislation and the administration of law, and if those who engage in carrying forward this work are entitled to compensation, measured in any degree by the arduous and responsible character of its duties, it is but fair to inquire upon what ground of equity the same work, done equally well by two individuals, should be paid at altogether different rates, because the sex of one of these happens to differ from that of the other? It is not for the Visitors or the Board to answer this significant inquiry. But they would be doing injustice to what they have witnessed in the exercise of their duty, if they forbore to call the attention of the public mind to so plain and palpable an inquiry. They would not be understood as intimating a belief that the compensation of any class of our teachers is too high. On the contrary, in too many cases, it is altogether inadequate to the importance of the services which the profession of an educator deserves. They trust, however, that a new policy has been inaugurated, which will tend, in the end, to do nearer and more equal justice to both sexes in the business of education. They are encouraged in this, from the circumstances under which the present Principal of the Normal School at Framingham was inducted into office, as well as the manner in which the school has succeeded under her hands. The occasion was honored by the presence of His Excellency Governor Bullock, and other distinguished friends of education, and the hearty and thorough approval of the measure which he expressed in an able, eloquent and judicious address, carried conviction to the mind of every one who witnessed the event. Nor can the Visitors withhold their appreciation of the just sentiments and felicitous language of the governor in his appropriate reference to this school, and his earnest advocacy of the claims of our system of education upon

the public favor, in his address to the legislature at its present session. The Visitors would be inexcusable if they forbore to acknowledge the aid which the school has derived during the last term from the gratuitous services of its friends. Professor Atkinson, of Cambridge, and of the Technological Institute, of Boston, has not only delivered three valuable and interesting lectures to the pupils, but has raised, through the liberality of others, the sum of \$150, which he has expended in a most judicious selection of books for the library of the school. In this department, however, the school is still sadly deficient, the whole number of volumes, of practical value to the pupils, not exceeding five hundred. And it is to be hoped that the defect may ere long be supplied from some of the multitude of suitable works which are being provided for the wants of the public. Valuable and interesting lectures have also been made by George B. Emerson, LL. D., the Hon. Joseph White, Secretary of the Board, Mr. Northrop, Agent of the Board, and three lectures upon special topics were made by one of the Visitors. No important repairs have been necessary upon the school-house during the past year. But it has been found that a new furnace was requisite, in order to keep the house tolerably comfortable during the severe weather of the winter, and the Visitors have accordingly procured one to be placed in the building.

The Visitors are, moreover, often reminded by those who understand the matter better than they themselves do, that a new pianoforte is much needed by the school, in order to carry out their system of instruction, if, as at present, it embraces music. To give up that branch at this day, would be doing injustice to the pupils. But the withholding the proper means of carrying it out, is little else than defeating indirectly what is directly promised in the programme of what is to be taught there.

So far as a duty has devolved upon the Visitors, they have not only endeavored to do it, but have derived, in turn, great pleasure and satisfaction in the repeated visits which they have paid to this school. They believe that the present teachers have been ready and desirous of carrying out their wishes, so far as they have been in accordance with the purposes and design of a Normal School. There was danger originally of attempting to make these schools into a class of superior High Schools, where classes should be taught in branches, which were not within the range of instruction in the Common Schools of the

Commonwealth. This has not been in accordance with the judgment of the undersigned Visitors, nor have they encouraged such an idea in the school at Framingham. On the contrary, they have regarded the school as a seminary wherein young women were to be taught, and trained to teach, in turn, the pupils in the Primary and ordinary schools of the State, and that to do this, they must not only be made familiar with the elementary branches of instruction, but must learn how to make those whom they are to teach, alike familiar with these. It is of questionable utility, to say the least, to put children in charge of a teacher who cannot or will not do this. And inasmuch as the time assigned as the regular period of instruction in the Normal Schools is but two years, there can be but a limited opportunity, at best, to pursue the higher branches of education within so brief a period. If either, therefore, had to be sacrificed in any case, the Visitors have been of opinion that it ought not to be the elementary branches. And they make this statement in justice to the school and its teachers, if any one should fail to find that proficiency in some of the higher departments of instruction, which they might, at first thought, expect to find in a State institution. These schools, they repeat, are not High Schools nor Colleges, but are training schools, where earnest and ingenuous young men and women may fit themselves, without charge for tuition, to supply that instruction which our Common Schools are designed to afford.

It is grateful to know that the public are every year becoming more and more appreciative of the benefits of such a training. The demand for teachers who have had the benefit of Normal instruction, is increasing every year, and the supply is already inadequate to the demand. It augurs well for the Commonwealth and our common country. It shows a growing appreciation of the system of education, which lies at the foundation of our national existence. The process of educating them that is now going on among the new-made citizens of the South, will, in the end, if kept in vigorous action, be more potent in working out the true policy of *reconstruction* of our Union, than the scheming of a thousand politicians, for it is the only process which can raise the down-trodden victims of a pernicious institution, to the dignity and capacity of freemen.

D. H. MASON.

E. WASHBURN.

*Report of the Visitors of the Westfield Normal School. .*

The Visitors are gratified in being able to report that the Westfield Normal School is increasingly prosperous. The number of pupils this year has been larger than in the previous year, and the Board of Instruction have given new evidence of their rare qualifications for the work assigned them, and of their fidelity and efficiency in the prosecution of that work.

The kind of instruction which is required in our Normal Schools demands a thorough preparation on the part of the teacher; a familiar acquaintance with methods of teaching, as well as with text-books; sound judgment in respect to those methods; and ability to apply principles to practice in the art of teaching.

In all these respects the Principal of the Westfield Normal School, and his entire board of assistants, are all we could desire. They have occupied their present positions long enough to become fully acquainted with their work. Under the direction of the Principal, a plan of instruction has been developed, admirably suited to the objects to be attained, and the assistants enter into this plan heartily and earnestly, and the result is, harmony, unity of effort, efficiency and success.

It is to be hoped that we shall be able to retain the present Board of Instruction for many years to come.

The statistics of the school are as follows:—

Number of pupils admitted to the school the past year is—

Ladies, . . . . .	70
Gentlemen, . . . . .	3
Total, . . . . .	73

Average age of those admitted—

Ladies, . . . . .	18 yrs. 4 mos.
Gentlemen, . . . . .	19 " 4 "
General average, . . . . .	18 " 5 "

Number who taught before entering—

Ladies, . . . . .	26
Gentlemen, . . . . .	2
Total, . . . . .	28

## Number in attendance—

Ladies, . . . . .	131
Gentlemen, . . . . .	10
Total, . . . . .	141

## Number of graduates,—

Ladies, . . . . .	30
Gentlemen, . . . . .	5
Total, . . . . .	35

Of those in attendance—Hampden County furnished 52 ; Berkshire, 24 ; Hampshire, 21 ; Franklin, 11 ; Worcester, 11 ; Middlesex, 2 ; Essex, 1 ; Norfolk, 1 ; Suffolk, 1 ; Ohio, 1 ; Connecticut, 9 ; New Hampshire, 4 ; Vermont, 2 ; New York, 3 ; Pennsylvania, 1 ; Minnesota, 1.

*Occupation of Parents.*—Farmers, 34 ; mechanics, 7 ; physicians, 1 ; merchants, 8 ; agent, 1 ; manufacturers, 10 ; cattle dealer, 1 ; postmaster, 1 ; missionary, 1 ; clergymen, 2.

## Number of students who have received State aid—

Fall and winter term, . . . . .	40
Summer term, . . . . .	52
Total, . . . . .	92

Whole number who have graduated since February, 1855, . 385

The demand for the graduates of this school is constantly increasing, and now far exceeds the supply ; and the success of the graduates in their work is highly complimentary to the teachers, and the best endorsement of the wisdom of the Commonwealth in the establishment and maintenance of Normal Schools.

The Board of Instruction remains the same as last year, viz.:—J. W. Dickinson, A. M., Principal ; J. C. Greenough, A. B., J. G. Scott, A. M., Miss M. Mitchell, Miss A. V. Badger, and Mrs. Dickinson.

Instruction in music has been given by Mr. Scott, and the gymnastic exercises have been under the direction of Miss Mitchell.

Three very interesting and valuable lectures on Civil Polity, have been given during the year, by the Secretary of the Board of Education.

Dr. Lowell Mason has given several lessons in singing to our Normal School, and several to our School of Observation.

These lessons were elementary, and of the highest value to both schools.

Dr. Mason has supplied both schools the last year with his *Elementary Singing Books*, and the Normal School with his "*Book of Psalms*," arranged for responsive reading.

We feel under great obligations to Dr. Mason for his teaching exercises, and his donations of books.

Professor Niles gave to the school two very interesting lectures on the origin and structure of limestone rocks.

These lectures and lessons have all been given free of charge to the State.

Professor George Walton has also supplied our School of Observation with his excellent arithmetics without charge.

The libraries connected with the school have been enlarged by donations from Hon. H. L. Dawes, Rev. George Felton, C. A. Richardson and W. R. Stocking.

Valuable additions have also been made to the Cabinet of Minerals, and to the collections in Zoölogy and Botany. Generous contributions have been received from William H. Foote, William Atkins, Henry Holland, L. Lewis, and W. H. Lamson, of Westfield; F. A. Holcomb, of Granby, Ct.; J. H. Haldeman, of Pa.; and Miss Martha Ayres, of Macon, Ga.

The thanks of the Board of Visitors is hereby presented to these contributors, for their valuable donations.

The appropriation of \$2,000 by the last legislature for a new fence around the school grounds, has been expended under the direction of the Visitors. Mr. George Green, of Westfield, was the architect and builder, and it is due to him to say, that he has executed the work in the most satisfactory manner. The fence erected is a model of strength and beauty, creditable to the skill and fidelity of the builder, and an ornament to the school grounds, and to the town.

An appropriation was made last year by the legislature, in accordance with a request of the Board of Education, for the support, in part, in connection with the town of Westfield, of a "School of Observation." With respect to the operations of this school, we beg leave to quote the following extracts from the report of the Principal:—

"In this school there are three departments, consisting of what are called the Primary, Intermediate, and Grammar departments. The three departments are under the charge of teachers who have graduated from the Normal School, and who have had experience and success in teaching. Under the care of such teachers, these schools are able to exhibit to the eyes of the Normal pupils, the result of a practical application of the principles taught in the Normal School. By observing such a school in all its relations, the Normal student is able to gain clear notions from the abstract teaching he receives in his own classes. The students in the graduating classes of the Normal School, can pass from a discussion of principles and methods, to an observation of their application. They can study the organization and classification of these schools. They can observe modes of school government, and the effect upon the governed. Thus a visible illustration of the abstract principles that constitute the science of teaching, is faithfully presented to the Normal pupils by the School of Observation. The importance to the Normal students of this visible illustration cannot be over-estimated. Seeing affects the judgment so much more readily and completely than abstract reasoning, that this school accomplishes what cannot be easily accomplished in any other way. It removes doubts, conquers old prejudices, and substitutes in their places, faith and knowledge and enthusiasm.

"The effect already produced upon the Normal School by the School of Observation, is marked and satisfactory.

"The Normal School has received an impulse that nothing but this school could have given to it; and the training now given to the Normal pupils, is more complete and practical than ever before. I sincerely hope the Board of Education will judge it best to make another appropriation of \$500 for the support of this school."

We heartily concur with the Principal in these views, and would recommend to this Board, to request of the legislature, an appropriation of \$500 for the support of this school the ensuing year.

WILLIAM RICE.  
S. T. SEELEY.

*Report of the Visitors of the Normal School at Bridgewater.*

The Visitors of this school are happy to report that its condition and prospects are good, and the present corps of teachers appears to be able and efficient. During the last few years we have observed a constant improvement in this school, and we believe that its success is gratifying to all who are interested in its welfare.

The statistics, as procured from the Principal, Mr. Boyden, are as follows :—

	Males.	Females.	Totals.
Number admitted in March, . . . . .	8	15	23
“ “ in September, . . . . .	8	12	20
“ “ during year, . . . . .	16	27	43
“ who had previously taught, . . . . .	5	9	14
“ in attendance the first term, . . . . .	19	59	78
“ “ “ second term, . . . . .	22	53	75
“ of different pupils for the two terms, . . . . .	27	73	100
“ of graduates first term, . . . . .	2	10	12
“ “ “ second term, . . . . .	1	6	7
“ “ “ during the year, . . . . .	3	16	19
“ “ “ since commencement of school, . . . . .	—	—	975
“ “ “ adm'ted since c'mmenc't of school, . . . . .	—	—	1,542
“ who have received aid from the State, . . . . .	10	18	28

Average age on admission, . . . . . 21.7 yrs. 19. yrs. 19.9 yrs.

The pupils admitted during the year have come from the following places :— Bridgewater, 4 ; Fall River, 3 ; Middleborough, 3 ; Boston, Carver, Fairhaven, North Bridgewater, 2 each ; Abington, Beverly, Cambridge, Dighton, Fitchburg, Freetown, Marblehead, Nantucket, Newburyport, Newton, Plymouth, Provincetown, Randolph, Reading, Salem, Templeton, Westport, 1 each ; Newport, (R.I.), 2 ; Barrington and Manchester, (N.H.), Catskill, (N.Y.) Ware House Point, (Conn.) and East Machias, (Me.) 1 each.

The occupations of their fathers have been stated as follows :— Farmers, 14 ; clergymen, 3 ; shoemakers, 3 ; mechanics, 3 ; traders, 3 ; sea-captains, 2 ; seamen, 2 ; engineer, color-maker,



grocer, hostler, jeweller, laborer, lumberman, moulder, miner, miller, manufacturer, saddler, 1 each.

Of the instructors in the school at the time of the last report, the following remain in service:—Albert G. Boyden, A. M., Principal; Miss Eliza B. Woodward, and Mr. George H. Martin, assistants; and Mr. Hosea E. Holt, teacher in music.

Several changes in the corps of instructors have occurred during the past year. At the commencement of the spring term Mr. Solon F. Whitney, who, for two and a half years, had occupied the position of first assistant in the school, resigned his place to accept the Principalship of the High School in Watertown.

The number of teachers was increased at this time by the appointment of two more lady assistants, Miss Emeline F. Fisher, and Miss Ellen G. Brown, both of them recent graduates of the school. Their success has shown that we made a very good selection.

At the close of the spring and summer term, Miss Charlotte A. Comstock, who, for more than two years, had rendered most efficient service as an assistant teacher, was induced, by the offer of a much larger salary than she was receiving here, and very much to our regret, to resign her connection with the school, and accept the appointment of first lady assistant in the State Normal School, at New Britain, Connecticut.

At the commencement of the fall term, Elisha H. Barlow, A. B., a recent graduate of Amherst College, was appointed first assistant. Early in December our ranks were again broken by the sudden resignation of Miss Brown to accept a position in one of the schools in the city of New York, and we were constrained to relinquish her services which we would have gladly retained.

The Board of Instruction, at the present time, consists of the Principal and four assistants, two gentlemen and two ladies.

Lectures and addresses have been delivered to the school during the year by Hon. Joseph White, Secretary of the Board of Education; George B. Emerson, LL. D., Treasurer of the Board; Rev. B. G. Northrup, Agent of the Board; Hon. John D. Philbrick, a member of the Board; and Mr. Hosea H. Lincoln, Principal of the Lyman Grammar School in East Boston.

The teachers and pupils of the school desire to express a sense of their obligation to these gentlemen for their efforts in our behalf.

Contributions to the libraries and cabinets have been made by the following persons, viz.: George B. Emerson, LL. D.; Hon. Joseph White, Hon. Charles Sumner, Messrs. O. Ditson & Co., Messrs. George R. Russell & Co., of Boston; Hon. Henry Wilson, of Natick; Messrs. Harper & Brothers, Messrs. Ivison & Phinney, Messrs. Mason Brothers, of New York; Messrs. Sower, Barnes & Potts, of Philadelphia; Lewis Holmes, Esq., Bridgewater; Messrs. George F. Andrews & Co., Plymouth; Augustus T. Jones, North Bridgewater; John D. Billings, and C. Irving Fisher, Canton; William H. Russell, Dartmouth; and Miss Laura A. Leonard, Middleborough. We desire to express our thanks to these contributors for their generous gifts.

The special appropriation for chemical and philosophical apparatus, granted by the last legislature, has been applied in part, and will greatly increase our facilities for imparting instruction in these branches. An earnest spirit is manifested by both teachers and pupils, and we believe the school was never accomplishing a better work. Mr. Boyden, the Principal, says:—"The greatest difficulty with which we now have to contend, is the *high price* of board, and the *difficulty of obtaining suitable* board for all our students. Something must be done, either by public or private enterprise, to remedy this difficulty."

The Visitors lament the necessity of so many and frequent changes in the corps of instructors. This, however, will continue until the State enables us to offer higher salaries to our teachers than they can obtain elsewhere. We lament our loss, but not the fact that the remuneration of skilled instructors is continually being advanced. The Normal Schools of Massachusetts ought to offer such inducements as to secure the very highest ability in the land, else they cease to *be* Normal Schools. Wherever a city or town can obtain better teachers than the State, the town school passes by ours and becomes the Model School. Either the State Schools should be what they profess to be,—the leading schools and examples of the highest art in education, or they do not accomplish their ends.

Respectfully submitted.

JAMES FREEMAN CLARKE.  
JOHN D. PHILBRICK.

*Report of the Visitors of the Salem Normal School.*

The statistics of the Normal School at Salem for the year 1866, are as follows:—

1. The whole number of pupils since the opening of the school, Sept. 13, 1854, is 1,005.

The number of pupils in attendance during the first term, 136 ; during the second term, 137 ; number of different pupils in the year, 135.

2. Class admitted Feb. 28, 1866, 85. Average age, 18.44 years. Class admitted Sept. 6, 1866, 49. Average age, 18.41 years.

3. Of the 84 pupils admitted in 1866, Salem sent 10 ; Gloucester, 5 ; Chelsea, 4 ; Beverly, Lowell, Lynn, Marblehead and Swampscott, 3 each ; Newburyport, Saugus, North Reading, Tewksbury and Taunton, 2 each ; Billerica, Blackstone, Brighton, Canton, Danvers, Dedham, Fall River, Franklin, Freetown, Hanover, Hingham, Ipswich, Lawrence, Littleton, Lynnfield Centre, Malden, Melrose, Methuen, New Bedford, North Chelsea, Weymouth, Plymouth, Rockport, Stoneham, Topsfield, Chelmsford, Westford, Worcester, 1 each ; Wolfborough, N. H., 3 ; Candia, Durham, and Franklin, N. H., Bremen, and Ellsworth, Me., Hartford, Ct., Fort Lee, N. J., and Wilkins, Pa., 1 each.

Of the 185 pupils present during the year, Essex County sent 102 ; Middlesex, 27 ; Bristol, 11 ; Suffolk, 8 ; Norfolk, 5 ; Worcester, 4 ; Plymouth, 4 ; Barnstable, 3 ; Maine sent 6 ; New Hampshire, 9 ; Connecticut, 1 ; New Jersey, 1 ; Pennsylvania, 2 ; Illinois, 1 ; London, Eng., 1.

4. The fathers of the pupils admitted during the year, are by occupations, as follows:—Farmers, 12 ; sea-captains, 8 ; clergymen, 6 ; merchants and traders, 6 ; shoemakers, 4 ; physicians, 3 ; grocers, 3 ; machinists, 8 ; tailors, 2 ; carpenters, 2 ; leather-dealers, 2 ; hatters, 2 ; manufacturers, 2 ; masons, 2 ; painters, 2 ; laborers, 2 ; officers in the U. S. army, 2 ; insurance agent, superintendent of schools, pianoforte maker, shoe-cutter, fisherman, bookkeeper, clerk, fish-dealer, engineer, depot-master, mariner, cooper, justice of peace, furniture-dealer, leather-cutter, wheelwright, ship-carpenter, clerk of court, unknown, 1 each.

5. Of the class admitted in February, 10 had taught school ; and of the class admitted in September, 12 ; total, 22.

6. Number that graduated January 31, 14 ; July 12, 25. A second degree was conferred upon two [in January, and upon three in July.

7. Whole number of graduates of the school (22 classes,) 242.

8. In January, 21 pupils received State aid ; in July, 18 ; making 23 different ones for the year. The income of the Bowditch fund was distributed among 17 pupils.

9. Number of pupils present in the several classes during the first term of the year : Advanced class, 7 ; class A, (senior,) 28 ; class B, 27 ; class C, 85 ; class D, 39.

Number present during the second term : Advanced class, 4 ; class A, 26 ; class B, 30 ; class C, 25 ; class D, 52.

10. At the close of the summer term, Mary E. Godden and Miss Mary E. Nash, resigned their situations as teachers in the school. Miss Godden had for two years had the principal charge of the department of English language, which she conducted with great fidelity and success. Miss Nash had been connected with the school one year, during which she skilfully directed the exercises in drawing and physiology.

On account of ill health, Miss Mary E. Webb, who has long been a successful teacher in this school was obliged the last term, to suspend her labors. Her place was very acceptably filled by Miss Sophia O. Driver, a graduate of the advanced class of January, 1866.

11. The school has been favored with valuable lectures, by Hon. Joseph White, Prof. Wm. P. Atkinson, Rev. B. G. Northrup, Gen. H. K. Oliver, Rev. George D. Wildes, Prof. James C. Sharp, and H. H. Lincoln, Esq.

Contributions to the school library have been made by Hon. Thomas D. Eliot, of New Bedford ; Hon. Charles Sumner, of Boston ; Hon. Henry Wilson, of Natick ; Hon. J. L. Pickard, of Chicago ; Hon. John Swett, of San Francisco ; Hon. H. K. Oliver, and Charles W. Palfray, Esq., of Salem ; Prof. William P. Atkinson, of Cambridge ; George A. Walton, Esq., of Lawrence ; and R. S. Davis & Co., of Boston.

Valuable additions to the cabinet have been made by F. W. Putnam, Esq., and Charles W. Palfray, Esq., of Salem ; and Capt. J. F. McKim, of Mobile ; and by several members of the school.

The classes that graduated January 31, and July 12, 1866, added to the fund for procuring a telescope, \$24 and \$45 respectively, making the fund \$136.95.

12. During the year just closing, nothing has occurred to disturb the harmony which has prevailed in this school for so many years.

Among the teachers the most cordial good feeling has subsisted, with that healthy emulation which aspires to leave no duty unperformed.

With scarcely an exception the pupils have done all that could be reasonably expected of them in their studies, and the Principal has been obliged to moderate the zeal of some who were inclined to undertake more than they had strength to accomplish.

A spirit of kindness, cheerfulness, and earnestness has marked the intercourse and work of teachers and scholars.

13. The main room was originally furnished with sixty double desks, and one hundred and twenty chairs. The number of pupils during the present term has been 187,—making it necessary to provide temporarily for seventeen.

Four young ladies applied after the stated examination, and would probably have been admitted had there been room for them. Ten more double desks can be placed in the main room, which will accommodate twenty more pupils,—or one hundred and forty in all.

The cost of ten desks of the same pattern as those now in use will not exceed \$200.

An appropriation therefore of that sum is needed for desks.

14. A piano is also greatly needed in the lecture room. Here is where the drill exercises in music are conducted, requiring a piano accompaniment. The musical scales are on the wall of room, and cannot be conveniently placed elsewhere.

A portion of the pupils are obliged to go to this room also for calisthenics, as the main hall is not large enough to allow all to participate in the exercises at the same time. Music is needed in conducting this drill.

While Professor Crosby had charge of the school, he saved the State the expense of another piano by placing in the room one belonging to Mrs. Crosby. Since his resignation, an inferior instrument has been hired at two-thirds the usual rent, of one of the pupils, who has now left the school.

The Visitors believe it would be an economical measure to purchase a good piano for the school, and ask for an appropriation of \$300 for that purpose.

15. The Visitors would urge upon the attention of the Board, the need of additional apparatus for illustrating chemistry, and natural philosophy.

The plan of hiring a travelling lecturer with portable apparatus to visit the school a few times a year, and give a meagre outline of the main principles of these sciences, with a few experiments, may have been the best plan that could be devised under the circumstances, to meet the wants of the school in former times. The increasing interest everywhere in the natural sciences, makes it important that the graduates of a Normal School should know how to *use* apparatus, as well as to be acquainted with philosophical principles. This knowledge cannot be gained by all the pupils unless the requisite means are provided for the school.

Miss Tenney, who is untiring in her efforts to illustrate the subjects she teaches, has borrowed in Boston and elsewhere, much of the apparatus she has had occasion to use in her classes.

A large proportion of the High Schools in the State, are, in this respect, in better condition than the Normal School.

The Visitors believe the time has come when chemistry and natural philosophy should be taught and illustrated by the Normal teachers, with Normal School apparatus, and therefore ask for an appropriation of \$1,000 to be expended this year, for that purpose, in the Salem Normal School.

16. The subject of teachers' salaries has given the Visitors great anxiety during the past year.

It has come to their knowledge that such compensation, and other considerations have been offered the Principal as were supposed tempting enough to induce him to leave the service of the State, and again and again have the most efficient assistants been solicited to accept situations elsewhere at much higher pay than they are at present receiving. These teachers are now working too hard, and one more at least must be added to their number, or some of them will be breaking down under their severe labors. The large class, fifty-two in number, that entered this term, cannot be taught in one section but must be divided, and this virtually adds a *fifth* class to the school.

Can the State afford to lose the services of these accomplished and experienced teachers ?

Shall the teachers themselves be compelled to wait much longer to have the full value of their work recognized ?

Shall they experience every term the humiliation of seeing their pupils just graduated, with no experience, receiving much larger salaries than the State doles out to them ?

A few days ago a member of the present senior class was appointed an assistant in the Salem High School on a salary, the same as has been paid the last half year, to Miss Dodge, the first assistant in the Normal School, a lady, of large experience in teaching, and of extraordinary ability, and three young teachers of the last graduating class are actually receiving from \$150 to \$200 a year more than this same lady, who has for many years devoted her talents to the welfare of the Normal School.

The Visitors feel that it will be useless to attempt to maintain the high reputation of the school, if they must exchange these tried and efficient teachers for others of no experience.

These will, and ought in justice to themselves, accept the lucrative situations offered them, though their love for the Normal School would retain them in it, at a fair compensation.

The Visitors have assured them from time to time of their own confidence in the wisdom and justice of the legislature and the Board of Education, and their belief that an appropriation would be made the present year, which would be a generous recognition of the great good that has been and is being accomplished by this school.

Respectfully submitted.

JOHN P. MARSHALL.  
ABNER J. PHIPPS.

## FRAMINGHAM NORMAL SCHOOL.

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[The Remarks of His Excellency, Gov. Bullock, and the Address of Ex-Gov. Emory Washburn, on the occasion of installing Miss ANNIE E. JOHNSON as Principal of the Framingham Normal School, September 4, 1866.]

### GOV. BULLOCK'S REMARKS.

*Gentlemen of the Board and Young Ladies.*

I have on many accounts deeply regretted my inability to visit this institution earlier in the year. But that regret is now greatly mitigated by the opportunity to be with you upon the present occasion of so great interest, and to bear a part, by my presence rather than by much speaking, in the ceremony of inaugurating a new mode of making the Normal School system attractive and effective.

This system has now been in successful operation more than a quarter of a century. I have attributed its prosperity largely to two instrumentalities. First, during all this period the schools have been under the oversight and direction of a central Board, comprising gentlemen eminent among the people, fit for this great work, and self-sacrificing in this cause of causes, for the present and the future Commonwealth. And, second, the system began under the management of teachers distinguished for their ability, and has been at all times since kept in such hands.

The distinguished gentleman, one of my predecessors in office, illustrious equally in the practical and the ornamental departments of life (Governor Everett,) under whose administration these institutions were established, marked the new epoch in education by delivering an inaugural address. The last thing I did before coming hither was to read over that very striking address, and I was impressed, as I have often before been



impressed, by the freshness and originality which he at all times brought to his discussions of the subject of education, discussions ranging over his whole lifetime, and adapted with wonderful versatility to every occasion and to every grade, from the highest university to the commonest school of the land. I noticed that he treated the present topic with more than his wonted caution, derived from history and philosophy. He spoke of the system as an experiment, and discoursed under the evident restraints of a felt uncertainty as to the degree of public sympathy it might attract, and as to the public disposition to make appropriations liberal enough to carry it to the verge of reality and success. His words of counsel have sunk deep into the policy of the State, while his fears have disappeared like morning clouds before the rising culture which has kept pace with the general prosperity. The system has gone through many changes,—of locality, of specific plan of administration, of the measure of money appropriations, and of internal details with which you are familiar. But out of all these vicissitudes it has emerged to have and to hold to-day, in the confidence of the people, the position of the central, primary, and essential instrumentality of the entire system of schools in Massachusetts. I regard the Normal Schools now as much a certainty in the complicated yet unified organization of persons and things which we call THE STATE, as the legislative or executive or judicial department of the government. To invest these schools with all the requisite intellectual machinery the State now appropriates nearly thirty thousand dollars annually; and, I doubt not, will increase this amount to meet any reasonable demand. For one, I like this, and take it to heart. I do not believe we can expend too much in this way. I never did believe, and I never shall believe, that from the time of the apparently extravagant expenditure upon Solomon's Temple until now, too much money has ever been laid out on a church edifice, or that from now to the end of time too much of the same article is likely to be expended upon school-houses or school teachers.

I think that every observing person who has watched impartially the stages of our social progress for the last twenty-five years, must concede that in no calling or pursuit has there been greater advancement than in that of teaching; and that the Normal Schools have manifestly elevated the professional standard

in this department. The man who doubts this will doubt all progress,—will doubt the benefit of all education,—will be unhappy over a world now covered with a network of railroads and connected in all its parts by the daily communication of a weird tongue which speaks under the seas to all people,—and he ought henceforth to have another world and another civilization all his own. We have nothing to do with any such. All men who are fit for our country and our time must agree that these institutions have added dignity and grace and power to the department of education.

And we are here to-day to establish, to mark, to consecrate another stage in this steady and beneficent progress. We commit for the first time to a woman's care and instruction one of these grand public institutions. The institution is worthy of any man or any woman; and I am happy to believe that the woman is worthy of the institution, of the cause it represents, of the consecration she comes here this morning to receive. As the official head of the Board of Education I need not say that they have arrived at this measure only after mature reflection and much deliberation, and I take pleasure in saying that the theoretical opinions derived from general philosophy and supported by general observation, which have brought them to the present conclusion, have been enforced and illustrated in this instance by the efficient and successful service of the lady into whose hands I now give the keys. We need not doubt that the experiment, if it can be called an experiment, will result in complete and triumphant success.

It is not a little remarkable, that while in all the avenues and retreats of domestic life we have appreciated the power of woman, and have made the recognition of it a part of our religion and of our rhetoric, in this broad field of education our action has been in advance of our theories,—and that the greater part of our schools have actually gone into the hands of female teachers before it has occurred to us to frame a theory in support of the practice. It looks a little as if our instincts had proved superior to our wisdom,—as if our conduct had outrun our logic, as I believe usually happens in practical life. It proves the power of these conquerors in the State, that noiselessly and without public observation they have taken possession of the school-houses,

where their success appears to be as absolute in shaping the characters of a rising generation of men, as it is afterwards in turning the men themselves to the best account. And thus we have it before us, as a great fact of social progress and public administration, that the best instructors, they who best develop the faculties which afterwards ostensibly prevail and rule in our affairs, are women, whom we have so long acknowledged rather as subjects for our protection than as moving powers of control and government. I speak of them as the best instructors, not to the exclusion of male teachers, and under the limitation of equality with males in acquired attainments and fitness. The induction of Miss Johnson to her office to-day is perhaps the first official and conspicuous announcement of a policy which appears to be founded on philosophical reasoning and on the results of a large experience.

And it is after all a promulgation of a policy which has much to support it in the analysis of the mind and heart of the sexes. I cannot at this time expand this topic. I trust, however, that some of the many gentlemen who go about and do the lecturing upon Education, while the women are doing so much of the teaching, will sometime favor us with a discussion that shall be worthy of this question. When they shall do that, they will portray those manifest and appreciable qualities, as well as those finer and more subtle qualities of nature and genius and art and culture and divinity, which make woman in many respects the best teacher; best by reason of her masterly power of patience, which is sought in the first and in the last solemn nursery of life,—best by her instincts, which are quite as safe as the common logic of men,—best by her greater industry, which no labor paralyzes,—best by her quicker perceptions, which are brought into beautiful play in all conversational or oral instruction, as well in the school-room as in the social circles,—best by her moral sensibilities, which neither physical exhaustion nor mental fatigue can dull,—by her radiant countenance, which reflects the soul and becomes a utility as well as a joy forever,—by the whole music of her nature, which makes the heart of the universal school-room of mankind to sing in tune with her own.

## EX-GOVERNOR WASHBURN'S ADDRESS.

The circumstances and considerations by which the Board of Education have been led to adopt the change in the direction and management of this school, which has this day been inaugurated, have been so well and ably presented by those who have preceded me, that nothing is left to be supplied. And it remains for me, therefore, only to offer, in their behalf, a few brief suggestions upon one or two topics which seem to be naturally associated with the occasion. One of these is the position which the Normal Schools hold in our general system of popular education. They must from their constitution be regarded in the nature of a specialty. They supply no part of the scheme of free schools which the law originally contemplated as requisite for the wants of the people. Nor do they profess to occupy the place of our academies or private seminaries in furnishing the broader or more liberal culture which these are expected to provide. The purpose they have to serve is a special and peculiar one, and the time within which they are expected to accomplish it is the shortest in which it can reasonably be attempted to be done. Nor is it so much to contribute a given amount of learning, as it is to give to their teaching such a practical character that it may in turn act upon others through the agency of their own pupils. What pupils acquire here, can hardly fail to yield the fruits of liberal culture in their minds, although the instruction they receive is designed to have an ulterior bearing upon those whom they are themselves to teach. It is therefore not only to communicate useful and valuable learning to their pupils that these schools are maintained, but to explain to them practically the best mode of doing this, that they, in turn, may know how best to apply the processes of educating others, by knowing how they themselves have acquired the knowledge they possess. There is nothing in all this incompatible with the cultivation of science or literature for their salutary effect upon the individual pupil, or with the development of a refined taste or any of those qualities which give ease and grace in the amenities of social intercourse. These are among the legitimate fruits of any well-directed intellectual culture. What I mean by this, is, that while the scheme of instruction which is prescribed in these schools, tends, almost as

a matter of course, to the attainment of the graces and accomplishments of scholarship, it has a wider aim and a broader purpose in its practical bearing upon the education of the children in the State.

This gives rise to two inquiries: 1st, What are these pupils expected to teach to others; and 2d, How it is to be done? In answering the first, we approximate the solution of another inquiry, which becomes important in determining the proper functions of Normal Schools. For if it is their object to teach pupils how to teach, it is obvious that the things must first be taught to them, which it will be, in turn, required of them to teach to others. If, therefore, it requires a whole two years' attention to these particular branches and those immediately connected with them, to fit a pupil to become a teacher, it must, obviously, be unwise, to use no stronger term, to divert her attention and occupy her time upon others, however important they might, otherwise, be considered in the light of general culture. It would be wasting time, for instance, for her to attempt to master Greek or the higher mathematics, not because these are not important branches of education in themselves, but because she can only do this at the expense of what is indispensable for her to know, if she hopes to succeed in the profession she has chosen. The remark applies to any language or accomplishment, the attainment of which requires the pupil to sacrifice any of the qualifications which are essential to success. Nor does the proposition lose any of its force, although, here and there, there may be a pupil whose taste or superior advancement might seem to call for a more extended course of instruction. It is not possible to afford the extra instruction required in such a case, without taxing the teachers with an undue amount of labor, or doing injustice to the other pupils who are pursuing their regular course, or else adding to the present corps of instructors. The objection to the last is, that the public are not sufficiently educated to the importance of these schools, to be willing to appropriate money whereby such extra teachers can be procured or paid. One important step has first to be gained, and that is, to get the public up to the point of paying those who are already in the work. There is no class of labor so inadequately paid, if we regard its value and importance, as that of competent, well-trained teachers of schools. The public mind is, we are happy to believe, in the

process of being enlightened upon the subject; and every good teacher that goes into the field, does something to bring sensibly before the people the miserable economy which refuses to provide a fair compensation for good instruction, merely because it is furnished by a woman, or because that of a poor quality can be had cheap. The true policy, therefore, in respect to the number of subjects to be studied in these Normal Schools, is to limit them to what can be fully, thoroughly and accurately taught by such a corps of teachers as can be employed and reasonably paid.

If now we turn to the other part of our question, as to how these subjects are to be taught, we shall have to consider what is the condition of those of whom the Normal pupils are expected to have charge. Our tables of statistics inform us that a large proportion of the children in attendance upon our common schools are of an age to be able to take only the primary and early steps in the curriculum of school instruction. Taking the census of 1860 and adding to those who are set down there as being between five and ten years of age, the 5,000 who were in attendance, the last year, under the age of five, and we have a total of more than 130,000 under the age of ten. I need not say in this presence, that the instruction of these must, emphatically, be elementary. Much of it must be in the very rudiments of knowledge. And if we go still further and include those between ten and fifteen, we embrace comparatively but few, especially in the country districts, who have advanced beyond the simpler branches of school education. It is to supply teachers for pupils of this grade that the Normal School was chiefly intended. But it may be asked, if this is all that a teacher is expected to accomplish, what is the occasion for speculating how she is to teach what must be so simple and easy to acquire? If teaching was simply mechanical, treating all children alike, and putting them through a daily drill like that of a company of raw recruits, if calling words was reading, and working out a sum in fractions or the rule of three, was mastering, to any appreciable degree, the science of mathematics, I might be willing to concede that it mattered little how the teacher taught or the pupil learned these lessons. We might admit with Dogberry that "reading and writing comes of nature," and the old alliteration of the Rs, "*reading, riting and rithmetic*," might be easily acquired. But the more the Normal pupil studies into this matter, the more she

perceives that there is a science in every step of intellectual training, and the more anxious she becomes to discover its laws and how they are applied. And she soon perceives that to do this successfully, she must be morally and intellectually, as well as liberally, trained herself. She must have command of the same powers in her constitution, which she expects to reach and control in that of her pupils. She must have disciplined powers of attention. She must not only be able to get knowledge, but must be able to trace the steps and processes by which she gains it, and to make others understand and know how to apply the processes by which they too may acquire the knowledge which they seek. Then, again, her judgment must be trained, her sympathies awakened, and her faculties, generally, so far under her control, as to be brought into lively and vigorous exercise at will. One of the main difficulties to be encountered in making an accurate scholar is, that he does not know how to study, till he has been taught. And one of the earliest lessons which a teacher has to make a pupil understand, is what the process of study is. The Normal School aims to supply this very kind of instruction and training, which the pupil is, in turn, to apply to the children of her charge. And it is for this purpose that the State is careful to provide for them skilled teachers of experience and tried capacity. They deal with their pupils by laying open to their own comprehension the constitution of their own minds, and the processes by which they gain and use knowledge.

But the time in which this knowledge is to be acquired, is limited to some eighteen months of actual study, and it is hardly necessary to repeat, that the topics which can be thoroughly and effectively taught within that space of time, must, necessarily, be few. Having reference to what their pupils are to teach again, these subjects divide themselves into two classes. One of them relates to what, in the process of learning, becomes incorporated, as it were, into the mind of the learner, so as to render what is acquired, as it were, intuitive, ready for use without any conscious mental effort. Of this character is the knowledge we get of letters in reading or writing. We forget the slow process by which we originally attained to the name and form and sound of these, both singly and in their combinations. So it is with calling words, or reading aggregates of numeral figures, or repeating the tabular results which we learn by rote from the multiplication

table. I need not add how much of this learning is purely arbitrary. There is no process of *a priori* reasoning which could tell me, that a certain shaped figure was a letter, or that it represented a certain sound, or that the something called "C" when in connection with a certain other letter had a sound, to which we give the name of K, and with another took the sound of what we call "S." And yet these arbitrary sounds and combinations have to be carefully and accurately taught to the child at the very outset of his school instruction. Nor is it entirely easy for even a skilled teacher to do this effectually. She has got to exercise tact and judgment and skill to adapt her instruction to the capacity of her pupil. She has not only to gain his attention, but must make what she wishes to impress upon him, intelligible to his mind. Compare for a moment the modern method of analyzing the sounds and relations of letters, by writing them before the pupil's eye on the blackboard and repeating the corresponding sound, and the former mode of having him drawl out, letter by letter, week after week, in the process of what was called "learning his letters," a mere roll-call of hard sounds and arbitrary names.

So far, then, as this class of subjects is concerned, the teacher should aim mainly at precise accuracy, which is only to be acquired by imitation and repetition, under a rigid observance of definite rules. But when we go beyond these, to subjects involving reason and judgment as well as memory, in the conception and enunciation of thoughts and ideas which relate to them, something more than accuracy of recitation is required. And that raises the inquiry how far it is wise or necessary to make use of text-books. The question is an interesting one, and not without its difficulty. Learning a lesson out of a text-book and reciting it *memoriter*, as is too often done, does little to enrich or invigorate the mind. A learned recitation scholar is often a learned dunce. And yet the child when set to study, needs something to keep his mind steady, to give to it an orderly direction, to help him fix his attention, and to furnish him a principle of association and ready mnemonics. If the subject of instruction be at all abstract, few children can follow the teacher in an oral statement or a general proposition. Text-books help to supply these necessities of young scholars. Let the pupil learn his prescribed lessons, thoroughly and accurately, and let these be arranged in an orderly sequence,



and while he is training his memory, he is preparing to receive what his teacher ought to supply from her own well-stored mind. The lesson, in that way, serves for her text, and is to be illustrated and enlivened by such familiar examples and explanations and inquiries, as will open to the mind of the pupil new thoughts, and render what he has been studying intelligible and interesting. And a recitation of this character, instead of being, as it too often has been, a dull, sing-song, meaningless thing, becomes the pleasantest exercise of the day to both teacher and pupil. But to do this implies thought and preparation on the part of the teacher, as much as it does study on that of the pupil. And it is in return, a thousand times more inspiring to both, than a round of lessons varied only by the different degrees of dullness with which they are recited, or the different intensity of stupidity with which the pupil undertakes to master the words which he is trying to repeat.

Such are some of the hints, and they are merely hints, which are suggested by an occasion when our attention is called to the aims and purposes with which a band of high-minded, hopeful young women are preparing to enter the ranks of the noble profession of teachers.

But I may be met with something like a hint in reply, that this picture of a teacher's life is anything but attractive, from its want of excitement and interest. It would certainly be unfair to deal otherwise than frankly with any one of this class, as to what she is to expect when entering upon the duties and rewards of a teacher. And I am free to confess that there is much to justify the complaint of many in the profession, that it is a life of irksome routine, and that they are in danger of losing the proper stimulus to effort, by having to do with children whose minds are so much inferior to their own. This, however, is but a one-sided view of the question. And even if it presented all its bearings, what department of labor or industry, bodily or mental, is there, of which the same complaint of monotony and routine might not be equally just. It is true of the duties and cares of the family. It is true of labor upon the farm, in the workshop and the manufactory. And even in what are called the liberal professions of law and medicine, no small share of their duties are mere matters of routine.

Regarded in this light, it really seems to resolve itself into the question, which is preferable, to go through a certain round of operations upon matter, or to do the same thing with mind? The question, in such a presence, can hardly fail to answer itself. And then again as to the danger of belittling one's mind by such a pursuit. That must evidently depend upon the temperament and habits of the teacher himself. If he is of an indolent, unambitious nature, working only when he is obliged, and content in doing the least possible labor for the most he can get, it makes little difference in the end with the growth of his mind whether he cuts out shoe leather by a pattern, or tends a spinning-frame, or hears boys daily recite a certain number of lines or paragraphs. But if, in the intervals of his work as a teacher, he will go outside of this, into the world as it lies spread out before him, and take a part in what is being done and thought and said there, he has no occasion or chance to grow stagnant and rusty, or for suffering himself to subside into the type of Ichabod Crane or Dominie Sampson. Roger Sherman and Nathaniel Greene, of Revolutionary memory, were none the less capable to guide the councils or lead the armies of the Republic because they had spent their lives in the duties and details of the shop or the routine of daily industry. They had been trained and educated while doing this to other thoughts by the influences and circumstances by which they were surrounded. Think for a moment, when you begin to distrust the dignity of the employment which you have chosen as compared with that of any of your neighbors, of what that employment consists. Instead of forcing the reluctant earth to yield the flowers that bloom for a day, or the fruits that ripen and decay in a single summer, or spending your cunning skill to fashion of wood or metal the parts of a curious machine, you are helping to perfect an engine of power whose subtle elements no human sagacity has ever yet completely analyzed, and whose capacity no calculus has been adequate to measure. The flower which you are to cultivate, though it be cut down even in its unfolding, will be sure to bear seed in other gardens under a more skilful training. What, after all, is the most calculated to damp the zeal and cool the ardor with which a teacher enters upon her work, is the slow returns which come of her best directed efforts. She either grows weary in waiting for the seed

she has planted to spring up, or she finds it springing up on a stony soil, or being choked by the weeds and thorns that show a ranker growth. But this impatience is neither wise nor philosophical. Who that has planted the seedling oak can measure from day to day the growth that it is making? He waits, and in a few years the sapling has begun to assume the form and proportions of the tree, and, in due time, it rears itself in beauty and strength, till it stands unharmed by the storms that sweep over it. To measure what she has in fact done, the teacher should contrast the child just entering upon the mystic problem of syllables and words with the beaming face and cheerful alacrity with which he gathers up as he reads from the printed page the incidents of some tale or narrative, or the eager delight with which he listens to the simple truths of science which she unfolds to his attentive ear. Or if she would comprehend the more signal triumphs of her skill, in striking out as it were the spark of genius which may have laid dormant till some such kindly hand has awakened it to life, let her look at the men and women who are stamping the impress of their own mind upon the passing age, and reflect that the world often owes its richest treasures of intellect to some fortunate hint, some word of encouragement given by an earnest teacher to an ingenuous pupil. Nor need she stop even there. If she would take a full measure of the grandeur of that miracle which she is helping to work out in the broader field of a nation's life, let her contrast, for a single moment, this noble old Commonwealth of ours, with her free schools, with any of the States where slavery has been keeping the human mind locked up in ignorance and barbarism.

Nor does the position of a teacher suffer in comparison with other avocations in which men engage in the rewards which it offers to honorable personal ambition. I say nothing of it as an avenue to wealth, but of other encouragements which it offers liberal and generous minds. If we analyze the secret springs and motives for what we call ambition, it will be found that they resolve themselves into the love of power,—power, it may be, to do good, or power to control others; and what field is there which opens so wide a scope for an honorable ambition like this as the life and business of a teacher of the young? He may not command the wills or direct the policy of the masses by the power

of eloquence, the prerogative of office, or the leadership of a party ; but he does far more than this, in guiding the thoughts and directing the judgments and developing the powers of those who are so soon to constitute the living energy of a united people. And in this we should ever bear in mind there is nothing involving superiority of blood or birth. On the contrary, the chance of success in such a mission is with one who, starting in obscurity, has caught something of that spirit that spurns and soars above the accident of name or birth. Nor is there anything of sex in this power of the teacher to achieve success. If there is, it is in favor of the more refined sensitiveness and delicacy of organization of woman, which give her a readier access to the sympathies and sensibilities of the child. But whoever is engaged in a work like this, be it man or be it woman, is doing something towards shaping the character and destiny of the nation. The great conservative principle of a free government is education and the free school. I congratulate you, Miss Johnson, and your associates, and you, young ladies, on the distinguished presence of the honored chief magistrate of our Commonwealth, and these tried and true friends of education, and the evidence it gives of their appreciation of your services in the cause. I congratulate you that by the experiment this day inaugurated your sex is at last to have one fair field in which to vindicate the confidence which the Board of Education in behalf of the State have, that, in the learning and skill and patriotic sentiment of her daughters, the Commonwealth is to share an element of moral power which has never before been fully developed, and that she is in this way to gain new strength and energy to meet the growing demand for influences like hers in the life-struggle through which our country is passing. The free states of Greece did not lose their independence so much from the lack of intelligence and love of liberty in their men as for the want of the influence, the counsel and the equal companionship of virtuous and high-minded women. The sound of war is indeed hushed, but never has there been such a necessity for wise men and trained and educated teachers as the country feels to-day. Never has the influence of Massachusetts and her schools been more needed in the conflict with ignorance and a vicious political education, in which our country is involved, than they are to-day ; and never has woman been called to higher

and more responsible duties than those which devolve upon her in the part which she is acting as teacher and educator of the young to whom the ark of our liberties is so soon to be confided.

Take heart, then, every one of you, teachers and pupils, while following out the mission in these halls to which they have been dedicated, in the assurance that it is to be your *privilege* to form a part of that noble army who are battling for free thought and the honor and integrity of a nation of free men.

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·    TREASURER'S   REPORT.

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## FOR APPROPRIATION FOR A FENCE ABOUT THE WESTFIELD NORMAL SCHOOL-HOUSE.

1866. July 7, 96,	1866. July 26,	By cash from State Treasurer,	
To cash paid J. W. Dickenson, . . . . .	\$500 00		
William Rice, . . . . .	1,500 00		
	<u>\$2,000 00</u>		
	\$2,000 00		\$2,000 00

## FOR THOMAS LEE'S DONATION FOR EXCELLENCE IN READING.

1866-7.	1866.	By balance from last year,	
To cash paid for a teacher and pupils at Framingham, . . . . .	\$87 30		
for pupils at Bridgewater, . . . . .	57 81		
for pupils at Salem, . . . . .	75 50		
for pupils at Westfield, . . . . .	79 39		
	<u>\$300 00</u>		
	\$300 00		\$300 00

## FOR APPROPRIATION FOR STATE AID.

1866. Feb. 8, March 3, July 6, 9, 10, 23, 1867. Jan. 11, 26, 31, Feb. 7,	1866. Jan. 10, 1867. 2, Jan.	By balance from last year, By State Treasurer, By State Treasurer,	
To cash paid A. G. Boyden, for Bridgewater, . . . . .	\$500 00		
J. W. Dickinson, for Westfield, . . . . .	500 00		
D. B. Hagar, for Salem, . . . . .	500 00		
G. N. Bigelow, for Framingham, . . . . .	500 00		
A. G. Boyden, for Bridgewater, . . . . .	500 00		
J. W. Dickinson, for Westfield, . . . . .	500 00		
To cash paid Annie E. Johnson, for Framingham, . . . . .	500 00		
A. G. Boyden, for Bridgewater, . . . . .	500 00		
D. B. Hagar, for Salem, . . . . .	500 00		
J. W. Dickinson, for Westfield, . . . . .	500 00		
	<u>\$5,000 00</u>		
	\$5,000 00		\$5,000 00



Dr. THE MASSACHUSETTS BOARD OF EDUCATION in account with GEO. B. EMERSON, Treasurer—Continued. Cr.

FOR APPROPRIATION FOR STATE SCHOLARS.

1866. June July	To cash paid to—	1866. July May	By State Treasurer, By James F. Bixby, a State scholar, engaged, for one year, in other business than teaching in the State schools, .	1866. June July
13,	Edwin C. Sweetser, of South Reading, Class of 1866, .	\$100 00		
6,	Hosea Morrill Knowlton, South Boston, of Class 1867, .	100 00		\$3,600 00
18,	Edward Albert Perry, Marlborough, Class of 1867, .	100 00		
	Byron Groce, East Abington, Class of 1867, .	100 00		
	All of Tufts College, .			
20,	Albion Cate, of Winchester, Class of 1866, .	\$400 00		
	Justin Edwards Gale, Rockport, Class of 1866, .	\$100 00		
	David Greene Haskins, Roxbury, Class of 1866, .	100 00		
	James William Hawes, Chatham, Class of 1866, .	100 00		
	Claudius Marcellus Jones, Worcester, Class of 1866, .	100 00		
	Amos Morse Leonard, Stoughton, Class of 1866, .	100 00		
	Otis Liscomb Leonard, Marshfield, Class of 1866, .	100 00		
	Alfred Clarence Vinton, Boston, Class of 1866, .	100 00		
10,	Sanford Harrison Dudley, New Bedford, Class of 1867, .	100 00		
	Geo. Henry Tripp, Roxbury, Class of 1867, .	100 00		
	James Henry Davenport, Roxbury, Class of 1868, .	100 00		
	Daniel Henry Davis, Roxbury, Class of 1868, .	100 00		
	Charles Fletcher Dole, Chelsea, Class of 1868, .	100 00		
	Edwin Lawrence Sargent, Class of 1868, .	100 00		
	All of Harvard College, .	1,400 00		
9,	Samuel J. Dike, of Salem, Class of 1866, .	\$100 00		
	Charles R. Paine, Yarmouth, Class of 1866, .	100 00		
	C. H. Parkhurst, Clinton, Class of 1866, .	100 00		
	F. E. Burnette, Dudley, Class of 1867, .	100 00		
	W. H. Cobb, Marion, Class of 1867, .	100 00		
	Dwight J. Merrick, Chicopee Falls, Class of 1867, .	100 00		
	Charles W. Park, Boxford, Class of 1867, .	100 00		
	John C. Terry, Weymouth, Class of 1867, .	100 00		
	All of Amherst College, .	800 00		
18,	Granville Hall, Ashfield, Class of 1867, .	\$100 00		
	Obed H. Sanderson, Groton, Class of 1867, .	100 00		
	Arthur F. Eggleston, Longmeadow, Class of 1868, .	100 00		
	Edward W. Rice, Lee, Class of 1868, .	100 00		
	All of Williams College, .	400 00		
	Balance to State Treasurer, .	700 00		
				\$3,700 00

**FOR THE INCOME OF THE TODD FUND.**

1866. Jan. & Feb. 1866-7.	To cash paid for music for 1865 Transferred to expense for Normal Schools, for music and other charges, . . . . .	\$327 22 1,314 79	1866. Jan. 1867. Jan. 19, 26,	By balance from last year's account, . By cash received from State Treasurer, . " " " " " " Balance due this account, .	\$492 15 323 15 307 60 609 11 \$1,642 01
		<u>\$1,642 01</u>			

[.5. 5.]

**GEORGE B. EMERSON, Treasurer.**

**We have examined the accounts of the Treasurer, as above specified, and find them correct.**

D. H. MASON, Auditor.  
A. J. Phipps, Committee on Accounts.

**FEBRUARY 7th, 1867.**



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**THIRTIETH ANNUAL REPORT**

**OF THE**

**SECRETARY**

**OF THE**

**BOARD OF EDUCATION.**

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## SECRETARY'S REPORT.

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### *Gentlemen of the Board of Education.*

I present herewith the Thirtieth Annual Report of the Secretary. It is a source of peculiar satisfaction to be able to say that in no previous year since my period of service began, have I witnessed more decided and cheering tokens of a true and substantial progress in the department of Public Instruction than in the present. This appears in a generous increase of the amount raised by voluntary taxation for the support of the Public Schools; in acts of well considered and provident legislation; in the gradual changing of defective organizations for simpler and more effective ones; in the constant substitution of commodious, well lighted, warmed and ventilated school-houses, with suitable furniture and apparatus, for the ill-contrived and inconvenient structures of the past age; in the longer terms of service and higher remuneration of teachers; in the more watchful and thorough and more enlightened supervision of the schools and in the rapidly increasing demand for teachers of a higher capacity and more thorough training for their work. Some of these evidences of the progress of which I speak, it will be my business now to lay before you.

I first invite your attention to the following

#### *Summary of Statistics for 1865-6.*

Number of towns and cities, . . . . .	335
Number of towns and cities making returns, all but one—Hudson, newly incorporated, . . . . .	334
Number of School Districts, . . . . .	2,258
Number of Public Schools, . . . . .	4,759
Increase for the year, . . . . .	10
Number of persons in the State between five and fifteen years of age, May 1, 1865, . . . . .	255,823
Increase for the year, . . . . .	8,048
Number of scholars of all ages in all the Public Schools in summer, . . . . .	230,894
Increase for the year, . . . . .	7,597

Number of scholars of all ages in all the Public Schools in winter, . . . . .	231,685
Increase for the year, . . . . .	2,171
Average attendance in all the Public Schools in summer, . . . . .	182,912
Increase for the year, . . . . .	7,887
Average attendance in all the Public Schools in winter, . . . . .	187,858
Increase for the year, . . . . .	3,896
Ratio of the mean average attendance for the year to the whole number of persons between five and fifteen, expressed in decimals, . . . . .	.73
Number of children under five attending Public Schools, . . . . .	4,783
Decrease for the year, . . . . .	418
Number of persons over fifteen attending Public Schools, . . . . .	22,122
Increase for the year, . . . . .	109
Number of teachers in summer; males, 415; females, 5,190; total, . . . . .	5,605
Increase of males, 12; females, 128; total increase, 140	
Number of teachers in winter; males, 962; females, 4,695; total, . . . . .	5,657
Decrease of males, 12; increase of females, 132; total increase, . . . . .	120
Number of different persons employed as teachers in Public Schools during the year; males, 1,086; females, 6,512; total, . . . . .	7,598
Increase of males, 14; of females, 217; total increase, . . . . .	231
Average length of the Public Schools, . . . . .	seven months and nineteen days.
Increase for the year, two days to each school.	
Average wages of male teachers (including High School teachers,) per month, . . . . .	\$59 53
Increase for the year, . . . . .	\$4 76
Average wages of female teachers per month, . . . . .	\$24 86
Increase for the year, . . . . .	\$2 54
Amount raised by taxes for the support of Public Schools, including only wages, board, fuel, care of fires and school-rooms, . . . . .	\$1,993,177 89
Increase for the year, . . . . .	\$210,552 77
Income of surplus revenue and similar funds appropriated for Public Schools, and reckoned the same as tax, . . . . .	\$4,662 72
Decrease for the year, . . . . .	\$662 39
Voluntary contributions to maintain or prolong Public Schools, or to purchase apparatus, . . . . .	\$35,138 11
Increase for the year, . . . . .	\$3,740 00
The amount of local School funds, the income of which can be appropriated only for the support of Schools and Academies, . . . . .	\$1,078,794 71
Increase for the year, . . . . .	\$33,030 41
Income of local School funds appropriated for Schools and Academies, . . . . .	\$66,347 06
Increase for the year, . . . . .	\$3,071 24

Income of the State School Fund received by the several cities and towns, as their share of the same, for the School-year, 1865-6, . . . . .	\$62,641 15
Increase for the year, . . . . .	\$1,916 88
Amount paid for superintendence of Schools and printing School Reports, . . . . .	\$67,750 57
Increase for the year . . . . .	\$7,221 33
Aggregate returned as expended on Public Schools alone, exclusive of expense of repairing and erecting School-houses, and of the cost of School Books, . . . . .	\$2,163,364 94
Increase for the year, . . . . .	\$222,768 87
Sum raised by taxes, (including income of surplus revenue,) exclusive of taxes for School edifices, for the education, in the Public Schools, of each child in the State between five and fifteen years of age,—per child, . . . . .	\$7 82
Increase for the year, . . . . .	\$0 59
Percentage of the valuation of 1865, appropriated for Public Schools, (one mill and ninety-eight hundredths,) . . . .	\$0.001-98
Increase for the year, . . . . .	\$0.000-21
All the towns in the State have raised the amount (\$1.50 for each person between five and fifteen,) required by law as a condition of receiving a share of the income of the State School Fund.	
Number of towns that have raised the sum of \$3 or more for each person between five and fifteen, (all except sixteen,) .	818
Increase for the year, . . . . .	6
Number of Schools returned as High Schools, . . . . .	134
Number of cities and towns maintaining High-Schools according to the statutes, . . . . .	102
Number of High Schools kept according to the statutes, . .	109
Number of incorporated Academies returned, . . . . .	52
Decrease, . . . . .	7
Average number of scholars, . . . . .	8,564
Increase, . . . . .	374
Amount paid for tuition, . . . . , . . . . .	\$118,815 31
Increase, . . . . .	\$1,338 45
Number of Private Schools and Academies returned, . . .	596
Decrease, . . . . .	86
Estimated average attendance, . . . . .	16,387
Decrease, . . . . .	4,947
Estimated amount of tuition paid, . . . . .	\$226,447 18
Decrease, . . . . .	\$144,618 78
Amount derived from taxes, tuition and funds, and expended on Public and Private Schools, and Academies, exclusive of the expense of buildings and books, is \$2,574,974.49; which is equal to the sum of \$10.09, for every person in the State between five and fifteen years of age.	

The above summary presents gratifying evidence of continued progress. It shows, what is worthy of special notice, a large increase in the provision which the people have made by taxation, for the support of their Public Schools, including only wages, fuel, care of fires and school-rooms. The appropriations of the cities and towns for the school-year 1864-5 were an increase upon those of the previous year of \$246,310.31. and the last returns show a further increase for 1865-6, of \$210,552.77, making a total of \$456,863.08,\* or 30 per cent. increase for the last two years. Adding the means derived from other sources than taxation and applied to the support of Public Schools only, and the increase since January, 1865, approaches nearly to the sum of a half million of dollars, (\$483,665.)

The advance in the amount raised by taxes voluntarily assessed, to an extent so much beyond any requisition of the statutes, for the two years immediately succeeding the close of an expensive war, and under a burden of taxation the most severe ever imposed upon the people, is decisive evidence of their appreciation of their system of public instruction, and a fact of special interest in the history of popular education and of our Commonwealth. The advance for the last year was in the ratio of nearly one-eighth. If the appropriations should continue in the same ratio of increase for the next ten years, the amount raised by taxes alone for the ordinary support of the Public Schools at the end of the decade would be more than six millions of dollars.

The actual advance for the last ten years, or since 1855, is shown by the following tabular statement:—

*Amount raised annually by tax † for the support of the Public Schools for ten years, or since 1855.*

1856.	Raised by tax,	.	.	.	.	.	\$1,283,427	75
	Increase on previous year,						\$69,474	20
1857.	Raised by tax,	.	.	.	.	.	\$1,341,252	08
	Increase on previous year,						\$57,824	28
1858.	Raised by tax,	.	.	.	.	.	\$1,390,382	84
	Increase on previous year,						\$49,130	81

\* Not including income of funds that may be used for municipal purposes like money raised by taxation.

† No income of funds included.



1859.	Raised by tax,	. . . . .	\$1,428,476	02
	Increase on previous year,		\$38,093	66
1860.	Raised by tax,	. . . . .	\$1,475,948	76
	Increase on previous year,		\$47,472	74
1861.	Raised by tax,	. . . . .	\$1,500,501	13
	Increase on previous year,		\$24,552	37
1862.	Raised by tax,	. . . . .	\$1,434,015	20
	Decrease from previous year,		\$66,485	93
1863.	Raised by tax,	. . . . .	\$1,536,314	81
	Increase for the year,		\$102,299	11
1864.	Raised by tax,	. . . . .	\$1,782,624	62
	Increase for the year,		\$246,310	31
1865.	Raised by tax,	. . . . .	\$1,993,177	39
	Increase for the year,		\$210,552	77

It appears from the above statement that the aggregate increase in the last decade, or since 1855, has been \$779,223.84, or 64 per cent. The whole amount provided by taxation in 1847, was \$754,943.45—a less sum than the increase in the last ten years, showing an advance of more than 100 per cent. in ten years upon the whole amount that was raised by tax in 1847 or less than twenty years ago. The statement also shows the advance during the period that elapsed from the last municipal appropriations for the ordinary support of the Public Schools before the war began to the first similar action after hostilities were mainly closed—from the early part of 1861 to the same period of 1865 inclusive. The amount raised by tax in 1861 (for 1861–2,) was \$1,500,501.13; in 1865 (for 1865–6,) \$1,993,177.39, an increase of \$492,676.26, or nearly 33 per cent., within the five years embracing the period of the war, and ending in the spring of 1866.

The returns show advance in other respects. The inducements to withdraw the older scholars from the Public Schools, during the past year, have been unusually great, arising from the enhanced expenses of living and the tempting remuneration of labor, yet the usual attendance of former years has been fully maintained. The wages of teachers have been increased; also the length of the schools; while the number and patronage of Private Schools have been diminished. The annual Reports of the School Committees, many of which are of signal ability and excellence, and worthy the perusal of all educators, show progress

in those who lead the people in the great cause of popular education, as to just and earnest views respecting the qualifications of teachers, methods of instruction, objects and modes of government, and the proper purposes and results of school training.

#### LEGISLATION.

Several important Acts of legislation relating to the school system (to the Public Schools) were passed during the last session which seem to me to be worthy of record in this Report.

The first is

[Chap. 53.]

AN ACT concerning the Management of the School Fund.

*Be it enacted, &c., as follows :*

SECT. 1. The secretary of the board of education and the treasurer and receiver-general shall be commissioners whose duty shall be to invest and manage the Massachusetts school fund, and report annually to the legislature the condition and income thereof. All new investments of said fund, or any part of the same, shall be made with the approval of the governor and council.

SECT. 2. This act shall take effect upon its passage. [Approved March 2, 1866.]

Heretofore the investment and management of the school fund had been solely in the hands of the treasurer and receiver-general, his action being subject to the approval of the governor. As the fund has accumulated to \$2,000,000, and as the duties of that officer have been greatly multiplied, it was deemed wise to associate with him the executive officer of this Board, whose object would naturally be to make the investments so as to insure both the perfect security and the largest income of the fund.

The next in order is

[Chap. 208.]

AN ACT concerning the Distribution of the Income of the School Fund.

*Be it enacted, &c., as follows :*

SECT. 1. In the distribution of the income of the school fund, for the benefit of the public schools of the state, every city and town complying with all laws in force, relating to the distribution of the same, shall annually receive seventy-five dollars; and the residue of said moiety shall annually be apportioned among the several cities and towns, in proportion to the number of children in each, between the ages of five and fifteen years :

*provided*, that after the distribution of said moiety of income in the year eighteen hundred and sixty-nine, no city or town in which the district system exists, shall receive the seventy-five dollars herein specifically appropriated.

SECT. 2. Any town which shall maintain the school required to be maintained by the second section of chapter thirty-eight of the General Statutes, not less than thirty-six weeks, exclusive of vacations in each year, shall not be liable to the forfeiture provided in section first, chapter one hundred and forty-two of the laws of the year eighteen hundred and sixty-five, for non-compliance with the requisitions of the aforesaid second section.

SECT. 3. All acts or parts of acts inconsistent herewith are hereby repealed.

SECT. 4. This act shall take effect upon its passage. [*Approved May 3, 1866.*]

This new provision is alike just and wise, and liberal in its policy. It will do something towards alleviating the burdens which the support of their Public Schools imposes upon the towns of limited population but extended territory, and doubtless encourage still nobler efforts. In not a few the territory is so large and the population so sparse, that the endeavor to bring the schools within the easy reach of all has tended to increase their number beyond what a just economy or a wise management of the schools themselves would allow. This process of sub-division has been carried to such an extent as not only to reduce the schools themselves to a very low grade, but also to impose a heavy burden of taxation in order to maintain them for the period required by law. In a majority of the towns of this class the percentage of taxation for the support of their schools ranges from two to three and even four mills in the dollar, while the munificent, not to say magnificent, system of schools of the city of Boston is maintained by a rate of taxation but little exceeding one mill in the dollar. Now, while the towns are urged so to reduce the number of their schools as to improve their quality, and also to increase their length, at least to the full extent required by the law, and yet hesitate to move from the fear of higher taxation, the legislature, largely composed of members from the cities and large towns, most wisely and opportunely, as it seems to me, have so changed the mode of dividing the income of the school fund as to give substantial aid and encouragement to the small towns to

enter upon a course of improvement. That such is the intent of the law, may fairly be inferred from the provision relating to the abolition of school districts in the year 1869.

Especial attention is invited to the second section of this Act, which wisely provides against a liability to loss to which any town is exposed by a sudden and unforeseen interruption of the sessions of its High School.

The following Act is inserted as an interesting proof of the care which the Commonwealth takes for the education of the children of the inmates of her almshouses :—

[Chap. 209.]

AN ACT to establish a State Primary School.

*Be it enacted, &c., as follows :*

SECT. 1. There shall be established at the state almshouse in Monson a state school for dependent and neglected children, which shall be known as the state primary school. So much of the land and buildings belonging to the state almshouse, as in the judgment of the board of state charities shall be necessary, shall be used for the purposes of the school, and the remainder shall be used for the purposes of a state almshouse. There shall be received as pupils such children as are now maintained and instructed in the state almshouses ; and such children shall be maintained, taught, exercised and employed as their health and condition shall require, but they shall not be considered as inmates of the almshouse, nor allowed to mingle with the inmates, nor shall they be designated as paupers.

SECT. 2. Said school shall be under the charge of the superintendent and inspectors of the state almshouse at Monson, who shall prepare rules and regulations for the government of the school and the general management of its affairs ; and such rules and regulations, when approved by the governor and council, and placed on record in the office of the secretary of the Commonwealth, shall be and remain in force, until altered or amended with the approval of the governor and council.

SECT. 3. All needful officers for said school shall be appointed and their compensation fixed by the superintendent, subject to the approval of the inspectors.

SECT. 4. For the purpose of instruction and employment there shall be transmitted to the state primary school from the state almshouses at Tewksbury and Bridgewater, from time to time, all such children as are of suitable condition of body and mind to receive instruction, and at the same time are likely to continue for a period of six months under the care of the state ; and especially such as are orphans, or have been abandoned by their parents, or whose parents have been convicted of crime, or come within

any of the descriptions of persons contained in the General Statutes, chapter one hundred and sixty-five, section twenty-eight.

SECT. 5. Such transfers of children shall be made by the board of state charities, who shall have full power to make such other transfers of children as they may deem necessary, from the state almshouses; and the power of admission and discharge shall be vested in the said board of state charities, together with the other powers now vested in said board in relation to state paupers in almshouses and hospitals.

SECT. 6. It shall be the duty of the board of state charities, upon consultation with the trustees of the state reform school at Westborough, as often as once in three months, to examine into the sentences and the conduct of the pupils in that institution; and when they shall find pupils there residing who have been committed for trivial offences, and do not appear to be depraved in character, or to need the restraints of imprisonment, the board of state charities shall furnish lists of such pupils to the governor, who may, under his warrant, direct the removal of such children to the state primary school at Monson, and such removal shall suspend their sentence of confinement at Westborough, during the good behavior of such pupils.

SECT. 7. No child above the age of sixteen years shall be received or retained in the state primary school, except by special vote of the board of state charities, on the representation of the superintendent that there are urgent reasons for such admission or retention; but it shall be the duty of the superintendent, inspectors and other officers to use all diligence to provide suitable places in good families for all such pupils as have received an elementary education; and any other pupils may be placed in good families, on condition that their education shall be provided for in the public schools of the town or city where they may reside.

SECT. 8. Except as already limited in this act, the board of state charities and the inspectors of the state almshouse at Monson shall have and exercise all the powers, and be subject to all the duties, in regard to the pupils of the state primary school, which now belong to or may hereafter be given to them in regard to the inmates of the state almshouse at Monson; and nothing contained in this act shall affect any powers or privileges heretofore granted to cities or towns, or the overseers of the poor thereof, by acts specially relating to the state almshouses, and the sending of state paupers thereto.

SECT. 9. The sum of two thousand dollars is hereby appropriated for the necessary changes in the buildings at Monson, which shall be expended under the direction of the superintendent and inspectors. The expenses of the school shall be paid from the appropriation for the expenses of the almshouse, and no officer now receiving a salary from the Commonwealth

shall be entitled to any increase of salary in consequence of this act; but such officers and employes as the superintendent and inspectors shall designate, shall be employed to perform services both in the school and in the almshouse.

SECT. 10. This act shall take effect upon its passage. [*Approved May 3, 1866.*]

[Chap. 210.]

AN ACT to repeal chapter thirty-seven of the General Statutes in relation to State Scholarships.

*Be it enacted, &c., as follows:*

SECT. 1. Chapter thirty-seven of the General Statutes, and all acts or parts of acts in relation thereto, are hereby repealed: *provided*, that the provisions of said chapter shall continue to apply to persons already appointed to a scholarship under said act.

SECT. 2. This act shall take effect upon its passage. [*Approved May 3, 1866.*]

The chapter of the General Statutes which this Act repeals is an expansion of chapter 193 of the Acts of 1858, which was enacted on the recommendation of this Board and of Rev. Dr. Sears, its distinguished Secretary. The object of the law was a beneficent and noble one; but an ample trial disclosed the fact that the law failed almost entirely to secure the intended results. My own opinions on this point, formed after considerable observation and inquiry, were frankly expressed in the twenty-sixth annual report. In accordance with the suggestions then made, important modifications in the law were made in the session of 1864. But before any experience of the effect of the modifications and amendments thus made, the conviction that there were insuperable obstacles in the way of a successful working of the law led to its entire repeal. There can be little doubt that the money expended under the provisions of the Act, now repealed, can be more profitably employed in the education of teachers at the Normal Schools.

[Chap. 273.]

AN ACT in relation to the Employment of Children in Manufacturing Establishments.

*Be it enacted, &c., as follows:*

SECT. 1. No child under the age of ten years shall be employed in any manufacturing establishment within this Commonwealth, and no child

between the age of ten and fourteen years shall be so employed, unless he has attended some public or private day school under teachers approved by the school committee of the place in which such school is kept, at least six months during the year next preceding such employment; nor shall such employment continue unless such child shall attend school at least six months in each and every year.

SECT. 2. The owner, agent or superintendent of any manufacturing establishment, who knowingly employs a child in violation of the preceding section shall forfeit a sum not exceeding fifty dollars for each offence.

SECT. 3. No child under the age of fourteen years shall be employed in any manufacturing establishment within this Commonwealth more than eight hours in any one day.

SECT. 4. Any parent or guardian who allows or consents to the employment of a child in violation of the first section of this act, shall forfeit a sum not exceeding fifty dollars for each offence.

SECT. 5. The governor, with the advice and consent of the council, may, at his discretion, instruct the constable of the Commonwealth and his deputies, to enforce the provisions of chapter forty-two of the General Statutes, and all other laws regulating the employment of children in manufacturing establishments, and to prosecute all violations of the same. [*Approved May 28, 1866.*]

This Act makes several important alterations in the previous law.

1. It forbids absolutely the employment of children under ten years of age in any manufacturing establishment.

2. It requires that children between the ages of ten and fourteen years shall attend school at least six months in the year next preceding employment, and the same period of time in each year that the employment continues.

3. It reduces the hours of work from ten to eight for all under fourteen years of age.

4. It makes the parent or guardian who suffers the child to be employed in violation of the Act equally liable to the penalty with the owner or agent of the manufacturing establishment.

5. It authorizes the governor, with the advice and consent of the council, to instruct the State constable and his deputies to enforce the provisions of all laws relating to this subject.

## MASSACHUSETTS SCHOOL FUND.

Amount of the fund January 1, 1866, . . . . .	\$2,000,000 00
Increase in 1866, from town forfeitures, . . . . .	696 80
Unexpended balance of moiety devoted to general educational purposes, . . . . .	753 53
	<hr/>
	\$2,001,450 33

The fund consists of the following securities,—

Hill & Bros., mortgage note, . . . . .	\$15,000 00
County, city and town scrip, . . . . .	852,270 00
Massachusetts scrip, . . . . .	888,000 00
5,762 shares Western Railroad stock, . . . . .	592,712 50
Notes and mortgages, Back Bay Lands, . . . . .	158,467 88
	<hr/>
	\$2,001,450 33

From the payments made on the Back Bay Land notes and mortgages, and of cash otherwise realized, there have been added to the permanent investments of the fund 960 shares of Western Railroad stock, of the new issue ; and \$100,000, of the Massachusetts War Loan scrip, bearing six per cent. interest. •

The balance of income in the hands of the treasurer on the 1st of January, 1867, was . . . . . \$135,821 48

The following forfeitures were incurred for a failure to comply with the statute requirements :—

North Chelsea, 10 per cent., . . . . .	\$10 02
Malden, “ . . . . .	30 55
Brookfield, “ . . . . .	18 26
Millbury, “ . . . . .	20 80
Prescott, “ . . . . .	9 15
Hawley, “ . . . . .	9 75
Northfield, “ . . . . .	13 17
Becket, “ . . . . .	12 30
Pittsfield, “ . . . . .	34 74
Wareham, “ . . . . .	17 61
Randolph, whole amount, . . . . .	285 45
Oxford, “ . . . . .	159 75
New Ashford, “ . . . . .	80 25
	<hr/>
	\$696 80



It is proper to state that with respect to the towns of Randolph and Oxford, it is claimed that there are circumstances, not made known to the offices having jurisdiction of the matter, which if presented to the legislature would authorize the remission of the penalty in whole or in part.

#### TEACHERS' INSTITUTES.

Seven Teachers' Institutes have been held during the year as follows:—

At Andover,	Apr. 16,	5 days,	number attending,	108
Pepperell,	" 23,	"	"	173
Orange,	Oct. 15,	"	"	200
Clinton,	" 22,	"	"	128
New Marlborough,	Nov. 5,	"	"	127
Stoughton,	" 12,	"	"	52
Fall River,	" 19,	"	"	195

Whole number of teachers in attendance, . . . '983

These teachers were the representatives of more than 150 towns; thus showing that nearly one-half of the towns of the Commonwealth felt the influence of the Institutes.

Arrangements were seasonably made for holding three Institutes in the spring; but the breaking out of an infectious disease at Stoughton, when it was too late to make other arrangements, caused the meeting to be deferred till the autumn.

Six Institutes were appointed and advertised in the autumn. But one of them, to be held at Lowell, was given up on account of the unwillingness of the school committee to close the schools so as to allow the teachers of the city to attend. The reason assigned was that the schools had been closed to give time to the teachers to attend the Annual Meeting of the State Teachers' Association, held at Boston, on the 11th, 12th and 13th of October, and that two intermissions of labor, separated by so short an interval were not admissible. For the same reason the schools of the towns adjacent to Clinton were not closed except for the last two days of the Institute; so that the number in attendance for the first three days was less than fifty. During the closing days we were favored with the presence of the teachers of Fitch-

burg, Bolton and Marlborough, thus making the whole number that reported above.

At Stoughton the effect was still more marked. Not a single neighboring town closed its schools; and with an occasional exception the attendance on the exercises of the Institute was made up solely of the teachers of Stoughton. For the same cause, the number at Fall River, although large, was scarcely more than one-half what it would otherwise have been.

With the single exception of a diminution of numbers, in those held in the vicinity of Boston, I am happy to say that there was no loss of interest in the exercises of this series of Institutes. Indeed I have never known the instructions given by the several teachers to be of a higher quality or better adapted to the end in view.

Great credit is also due to the members of the school committees and the leading citizens of the towns where the Institutes were held, for their generous hospitality, for their kind attentions to the teachers and taught, and for the severe labors incurred by many in order to secure the most satisfactory results.

The regular instructors were Dr. Lowell Mason, Prof. William Russell, Messrs. Walton, Niles, Sharp and Rev. Mr. Northrop, Agent of the Board, and Mr. E. H. Barlow, who gave valuable instruction in Light Gymnastics, at the spring Institutes. Messrs. Dickinson and Boyden, of the State Normal Schools gave valuable teaching exercises; the former in Grammar, at Orange, Clinton and New Marlborough, and the latter on the theory of Fractions, at Stoughton and Fall River. A. P. Stone, Esq., Principal of the High School at Portland, Me., favored the Institute at Andover with two highly instructive lessons in the true method of teaching History.

At Clinton, Rev. William L. Gage, recently returned from Germany, gave a suggestive exercise on the true method of teaching Geography, and two evening lectures, one on polar expeditions and discoveries, and the other on the present state and processes of education in the German Common Schools, Gymnasias and Universities.

My thanks are due to Jared Reed, Esq., Principal of a flourishing private school at Stockbridge, and to Mr. Tracy, his assistant, for interesting lessons and drill in School Gymnastics, given, without charge, at New Marlborough.

The following gentlemen gave evening lectures to large and attentive audiences ; Rev. E. B. Webb, D. D., at Andover and Clinton ; A. J. Phipps, Esq., of this Board, at Andover, Orange and Clinton ; Rev. S. W. Hanks, of Lowell, at Pepperell ; Rev. J. Jay Dana, of Becket, at New Marlborough ; Prof. William P. Atkinson, of the Institute of Technology, at Stoughton ; Rev. J. Freeman Clarke, of this Board, at Fall River ; Gen. H. K. Oliver, of Salem, at Orange, Stoughton and Fall River ; Prof. L. B. Monroe, at Andover ; and Prof. M. T. Brown, of Tufts College, at Orange, Clinton, Stoughton and Fall River. The lectures of the two gentlemen last named, were accompanied by fine specimens of reading. Lectures were also given by Mr. Niles, the instructor in Natural History and Physical Geography, and by the Agent and Secretary of the Board.

Furnishing as these Institutes do superior instruction, given by teachers of ability and experience in the branches required to be taught in our own Common Schools, and in the best methods of teaching them ; in respect to the rights and duties of teachers under the laws of the State, and in regard to the most approved modes of school management and discipline—they are the best substitute for the Normal School, which has yet been devised. The interest with which they are regarded by intelligent teachers who have not been favored by more extended Normal training, and especially by the graduates of these schools, as shown by the trouble and expense often incurred in attending them, no less than by the absorbing interest manifested in the exercises, furnishes conclusive proof of their great value, in preparing teachers for their vocation as well as in giving aid and encouragement in their arduous work. Six years of observation and experience in conducting them has only served to strengthen my original convictions that they are an indispensable instrumentality in sustaining and elevating the character of our Public School system.

#### AGENT.

Mr. Northrop has pursued the same course of school visitation and of lecturing in the rural towns as was pursued during the preceding year.

He has made 120 different visits to the towns, and 277 visits to schools, besides 32 visits to Normal Schools, a considerable

number of the latter being made at the Framingham School, at the request of the chairman of the executive committee, and in consequence of the changes made there. He has delivered 170 lectures. His visits have everywhere been cordially welcomed by parents, teachers and pupils, and his addresses have been listened to by thousands of auditors. The calls upon him for such labors have been far beyond his power to answer. Owing to the changes constantly and somewhat rapidly taking place from the district to the town system of organization, by which inquiry and discussion are awakened, the people are daily becoming more interested in their Public Schools, and the demand for information such as has been imparted by Mr. Northrop, on this as well as other topics, in his tours of visitation, is constantly increasing. So great is the demand that I am satisfied that the services of two agents instead of one could be constantly and most profitably employed. No money could be expended with the prospect of greater advantage to the Commonwealth than in this way.

After eleven years of faithful and most acceptable service, Mr. Northrop retires to another and very inviting field of similar labor. He has accepted the invitation of the Board of Education of Connecticut to act as their secretary, and will enter upon full service there in the early spring. He will be parted with by the members of this Board, I am sure, and by their Secretary, with sincere regret, a regret which will be shared by the active friends of popular education in every section of the Commonwealth, as well as by thousands of teachers and pupils who have been cheered and delighted by his instructions. He will bear with him to his new field of duty and responsibility our most cordial wishes for the most abundant success. We congratulate the Board of Education of his native State on securing the services of a man so well qualified, by nature, by education, and by a long experience, for the post to which they have called him.

The following table gives the names of ninety-eight cities and towns which appear by the returns to have chosen truant officers, in obedience to the law, being an increase of *eleven* over the number reported in the previous year :—

Boston,	Weston,	Canton,
Chelsea.	Woburn.	Cohasset,
		Brookline,
Beverly,	Athol,	Dorchester,
Georgetown,	Blackstone,	Medway,
Gloucester,	Brookfield,	Quincy,
Haverhill,	Clinton,	Randolph,
Ipswich,	Fitchburg,	Roxbury,
Lawrence,	Leicester,	Stoughton,
Lynn,	Leominster,	W. Roxbury,
Manchester,	Milford,	Weymouth.
Marblehead,	Millbury,	
Methuen,	N. Brookfield,	Fall River,
Newburyport,	Oxford,	Mansfield,
North Andover,	Sterling,	New Bedford,
Rockport,	Winchendon,	Somerset,
Salisbury,	Worcester.	Taunton.
South Danvers,		
Swampscott.	Hatfield,	Abington,
	Pelham,	Bridgewater,
Brighton,	Northampton,	East Bridgewater,
Cambridge,	Ware.	Hingham,
Charlestown,		Mattapoisett,
Concord,	Chicopee,	North Bridgewater,
Framingham,	Holyoke,	Plymouth,
Groton,	Springfield,	Plympton.
Hopkinton,	Westfield,	
Lexington,	Wilbraham,	Brewster,
Lowell,	Greenfield,	Provincetown,
Malden,	Northfield.	Sandwich,
Marlborough,		Truro,
Medford,	Dalton,	Yarmouth.
Natick,	Stockbridge,	
Newton,	W. Stockbridge,	Chilmark,
Stoneham,	Williamstown.	Edgartown.
Watertown,		
W. Cambridge,		Nantucket.

I have so often expressed my views of the vital importance to the full efficiency of our free school system, of a vigorous enforcement of the law relating to truancy and absenteeism, that I may well be excused from further remark. Were the people of the Commonwealth as homogeneous as in former years, the laws

relating to this subject would be well nigh useless. Now, in all our cities and large towns, particularly where manufacturing pursuits flourish, there is a constant and rapid influx of inhabitants of different nationalities, with diverse training and habits from ours, and more especially with different and far lower views as to a substantial English education for their offspring—an offspring, it may be remarked, increasing in a far higher ratio than that of the native population, and soon by the force of numbers alone, to exert a powerful influence for good or evil upon our social and political systems. In such an altered condition of society, surely no means may be left unsought or untried to secure the most efficient operation of a law, whose aim is to secure to every child within our borders such a measure of knowledge and mental and moral training as shall fit him for the discharge of his duties as a citizen and a man.

It is well known that the chief obstacle in the way of a successful administration of the Truant law has been, and still is, the difficulty of securing proper places for the confinement and proper instruction of the youthful delinquents. As I have before remarked, little difficulty of this sort is experienced by the cities and larger towns. But what is needed is that such provisions be made as to render the effects of the law uniform throughout the Commonwealth. These should be felt in the small towns and villages no less than in the larger ones. After no inconsiderable inquiry and reflection, I have been able to suggest no more feasible solution of this problem than that suggested in my last report, which was in brief terms as follows:—

“I respectfully suggest the propriety of transferring to the county commissioners in each county the duty of making all needful provisions for the confinement and instruction of all persons convicted under the Act in question. This could be done by making arrangements with town or city establishments already existing; or else by the erection or purchase of suitable ones at the expense of the county, designating, if more than one, the towns from which persons might be sentenced to each, and regulating the terms of compensation, &c.”

I most earnestly commend this subject, so vital to the complete success of our noble school system, to the constant and careful thought and care of my fellow-citizens, being fully convinced that consideration will lead to action and that judicious action will produce most beneficent results.

As an encouragement to effort by any who entertain doubts on this subject, I mention the example of one of our most flourishing inland cities, which has been recently brought to my notice. The authorities of Springfield have established a place of confinement and instruction, and placed it under the care of a competent teacher for incorrigible truants and absentees from school without good cause. The proper officers have been vigilant and faithful in the discharge of their duties; and the result has been, as I am informed by the excellent Superintendent of Schools, that the average attendance in the Public Schools of the city for the year just closed was 87 per cent. of the whole number of persons between the ages of five and fifteen years, or 14 per cent. more than the average attendance in the State.

Surely, with such examples and such results before us, your Secretary may be pardoned for his oft-repeated attempts to press this subject on the public attention.

As in former reports, I subjoin

*A list of Towns which have not maintained their Schools for Six Months.*

["Av. Length" as given by "Returns."]

TOWNS.	Months.	Days.	TOWNS.	Months.	Days.
ESSEX CO.			WORCESTER CO.		
Hamilton, . . .	5	15	Ashburnham, . . .	4	9
MIDDLESEX CO.			Berlin, . . . .	5	17
Ashby, . . . .	5	11	Brookfield, . . . .	5	18
Boxborough, . . .	5	10	Dana, . . . .	5	—
Carlisle, . . . .	4	10	Douglas, . . . .	5	16
Dunstable, . . . .	8	13	Gardner, . . . .	5	5
Pepperell, . . . .	5	8	Hubbardston, . . .	4	18
Stow, . . . .	5	15	New Braintree, . . .	5	17
Townsend, . . . .	5	4	Oakham, . . . .	5	7
Tyngsborough, . . .	4	10	Paxton, . . . .	5	2
Westford, . . . .	5	13	Petersham, . . . .	5	9

TOWNS.	Months.	Days.	TOWNS.	Months.	Days.
<i>Worcester—Con.</i>			<i>Franklin—Con.</i>		
Phillipston, . . .	4	15	Coleraine, . . .	5	8
Princeton, . . .	5	18	Erving, . . .	5	4
Royalston, . . .	5	10	Gill, . . .	5	7
Rutland, . . .	4	8	Hawley, . . .	5	2
Spencer, . . .	5	16	Heath, . . .	5	14
Sterling, . . .	5	7	Leverett, . . .	5	4
Sutton, . . .	5	8	Leyden, . . .	5	10
Templeton, . . .	5	8	Monroe, . . .	4	12
Warren, . . .	5	19	Montague, . . .	5	6
Westminster, . . .	4	10	New Salem, . . .	5	—
Winchendon, . . .	5	10	Northfield, . . .	5	11
<b>HAMPSHIRE Co.</b>			Orange, . . .	5	11
Enfield, . . .	5	10	Rowe, . . .	5	10
Goshen, . . .	5	8	Shutesbury, . . .	5	2
Greenwich, . . .	5	9	Warwick, . . .	4	17
Middlefield, . . .	4	17	Wendell, . . .	8	18
Pelham, . . .	5	11	<b>BERKSHIRE Co.</b>		
Plainfield, . . .	4	16	Alford, . . .	5	18
Prescott, . . .	5	8	Clarksburg, . . .	5	12
<b>HAMPDEN Co.</b>			Florida, . . .	5	5
Chester, . . .	5	15	New Ashford, . . .	4	10
Holland, . . .	5	—	Otis, . . .	5	10
Tolland, . . .	5	18	Savoy, . . .	5	2
<b>FRANKLIN Co.</b>			Washington, . . .	5	10
Buckland, . . .	5	10	Windsor, . . .	5	13
Charlemont, . . .	5	17			



TOWNS.	Months.	Days.	TOWNS.	Months.	Days.
BRISTOL CO.			<i>Plymouth—Con.</i>		
Freetown, . . .	5	19	Marion, . . .	5	7
Mansfield, . . .	5	18½	Rochester, . . .	5	8
PLYMOUTH CO.			DUKES CO.		
Halifax, . . .	5	13	Gosnold, . . .	5	10
Hanson, . . .	5	5	Tisbury, . . .	5	16
Lakeville, . . .	4	18			

Number keeping their Schools 5½ and less than 6 months,	. . .	\$5
" " " " 5 and less than 5½ "	. . .	27
" " " " 4 and less than 5 "	. . .	13
" " " " 3 and less than 4 "	. . .	2

Whole number of delinquent towns, . . . . .	77
Less than the previous year, . . . . .	10

Since the date of my last report a considerable number of towns, required by the law to maintain High Schools, have for the first time established them. Several have also been established in towns whose population does not bring them within the requisites of the statute.

I subjoin a table, carefully collated from the returns of the State census of 1865, showing the number and names of towns having 500 or more families, designating those which appear from the returns, or are otherwise known, to maintain a High School. Delinquent towns are in italics.

On comparing this table with the one given in my last report, it will appear that *Mansfield* and *Seekonk* in the county of Bristol, and *West Boylston* in the county of Worcester, have been dropped from the number of towns required to maintain a High School; while the following towns are added to that number, a fact to which I invite the especial attention of the parties interested. They are *North Andover* in the county of Essex; *Townsend* and *West Cambridge*, in the county of Middlesex; *Ashburnham*, in the county of Worcester; *Easthampton*, in the county of Hampshire, and *Milton*, in the county of Norfolk.

I also give a table containing the names of those towns which maintain High Schools, but which are not required to do so by statute.

*Towns having more than five hundred Families.*

TOWNS.	No. of Fam- ilies.	No. of High Schools.	No. of Months kept.	TOWNS.	No. of Fam- ilies.	No. of High Schools.	No. of Months kept.
<b>SUFFOLK CO.</b>			<i>Mo. Dya.</i>	<b>Middlesex—Con.</b>			<i>Mo. Dya.</i>
Boston, . . .	38,021	8	10 9	Cambridge, . .	5,852	1	10
Chelsea, . . .	3,034	1	10	Charlestown, . .	5,446	1	10
<b>ESSEX CO.</b>				Framingham, . .	945	2	10
Amesbury, . .	965	4	$\begin{Bmatrix} 7 & 15 \\ 8 & 7 \\ 5 & 4 \\ 7 & 5 \end{Bmatrix}$	Groton, . . .	769	1	10
Andover, . . .	1,196	1	8 14	Holliston, . . .	680	1	10
Beverly, . . .	1,400	1	10	Hopkinton, . . .	850	1	10
Danvers, . . .	1,103	1	10	Lowell, . . .	6,400	1	10
Gloucester, . .	2,601	1	10 5	Malden, . . .	1,474	1	10 10
Haverhill, . .	2,286	1	10	Marlborough, . .	1,448	1	10
Ipswich, . . .	716	1	10	Medford, . . .	1,051	1	10 16
Lawrence, . . .	3,753	1	10 5	Melrose, . . .	603	1	10
Lynn, . . .	4,432	1	10 5	Natick, . . .	1,196	1	10
Marblehead, . .	1,609	1	10 5	Newton, . . .	1,764	1	10 5
Methuen, . . .	606	—	—	Reading, . . .	574	1	10
Newburyport, . .	2,764	2	10	Somerville, . . .	1,807	1	10 15
No. Andover, . .	549	—	—	South Reading, .	730	1	10 10
Rockport, . . .	814	1	8 15	Stoneham, . . .	726	1	10 00
Salem, . . .	4,702	1	10 00	Townsend, . . .	500	—	—
Salisbury, . . .	850	—	—	Waltham, . . .	1,419	1	10 10
South Danvers, .	1,198	1	10 15	Watertown, . . .	782	1	10 00
<b>MIDDLESEX CO.</b>				W. Cambridge, .	561	1	10
Brighton, . . .	800	1	11	Woburn, . . .	1,508	1	10

TOWNS.	No. of Fam- ilies.	No. of High Schools.	No. of Months kept.		TOWNS.	No. of Fam- ilies.	No. of High Schools.	No. of Months kept.	
WORCES. CO.			Mos. Dys		Worcester-Con.			Mos. Dys.	
Ashburnham, .	504	-	-		Winchendon, .	656	1	8 5	
Athol, . . .	688	1	9 6		Worcester, .	6,048	1	10 15	
Barre, . . .	627	1	9 5		HAMPSH. CO.				
*Blackstone, .	1,004	1	10		Amherst, . .	749	1	10	
†Brookfield, .	511	1	-		Belchertown, .	621	-	-	
Clinton, . .	776	1	10		*Easthampton, .	501	1	10	
Douglas, . .	525	-	-		Northampton, .	1,464	1	10	
Fitchburg, .	1,749	1	10 10		Ware, . . .	681	1	10	
Gardner, . .	635	-	-		HAMPDEN CO.				
Grafton, . .	887	1	10 10		Chicopee, . .	1,577	1	10	
Leicester, . .	555	1	10		Holyoke, . .	1,015	1	10	
Leominster, .	778	1	10		Monson, . . .	595	-	-	
Milford, . .	1,966	1	10		Palmer, . . .	665	-	-	
Millbury, . .	744	1	10		Springfield, .	5,566	1	10	
*Northbridge, .	519	1	10		Westfield, . .	1,289	1	10	
N. Brookfield, .	570	1	10		FRANKLIN CO.				
*Oxford, . . .	630	1	-		Deerfield, . .	633	2	{ 10 5 15	
Southbridge, .	809	1	10		Greenfield, . .	694	1	10	
Spencer, . . .	676	1	10		BERKSHIRE CO.				
Sutton, . . .	533	-	-		Adams, . . .	1,604	2	{ 9 6	
Templeton, . .	558	1	5 5		Gt. Barrington, .	803	-	-	
Uxbridge, . .	597	1	10		Lee, . . .	850	1	10 5	
Webster, . . .	677	1	9 15		Pittsfield, . .	1,858	1	10 10	
Westborough, .	619	1	10		Sheffield, . . .	531	-	-	
					†Williamstown, .	530	-	-	

\* Towns for the first time returned as keeping a High School.

† Towns known to have commenced High Schools since the date of the last returns.

TOWNS.	No. of Fam- ilies.	No. of High Schools.	No. of Months kept.		TOWNS.	No. of Fam- ilies.	No. of High Schools.	No. of Months kept.
NORFOLK Co.			Mos. Dys.		Bristol—Con.			Mos. Dys.
Braintree, .	784	1	11		Taunton, .	3,234	1	10 10
Brookline, .	880	1	12		Westport, .	649	—	—
Canton, . .	690	—	—		PLYMOUTH Co.			
Dedham, . .	1,487	1	10		Abington, .	1,818	4	10
Dorchester, .	2,181	1	10		Bridgewater, .	722	—	—
*Foxborough, .	657	1	8 15		Duxbury, .	598	—	—
Franklin, .	550	—	—		*E. Bridgewater,	682	1	8
†Medway, .	751	1	—		Hingham, .	1,018	—	—
Milton, . .	571	—	—		Middleborough,	1,027	—	—
*Needham, .	580	2	10		N. Bridgewater,	1,391	1	10
Quincy, . .	1,507	1	10 9		Plymouth, .	1,387	1	10
Randolph, .	1,213	1	10		Scituate, . .	555	1	9
Roxbury, .	5,634	1	10		Wareham, .	576	—	—
*Stoughton, .	1,098	1	10		B'NSTABLE Co.			
West Roxbury,	1,237	1	10		Barnstable, .	1,138	—	—
Weymouth, .	1,755	2	10		Chatham, .	667	1	10 10
Wrentham, .	743	—	—		Dennis, . .	910	—	—
					Falmouth, .	520	—	—
BRISTOL Co.					Harwich, . .	904	—	—
Attleborough, .	1,360	—	—		Provincetown, .	846	1	10
Dartmouth, .	1,772	—	—		Sandwich, .	923	1	11
Easton, . .	693	—	—		†Wellfleet, .	555	1	—
Fairhaven, .	596	1	10		Yarmouth, .	601	1	—
Fall River, .	3,489	1	11		DUKES Co., .	—	—	—
New Bedford, .	4,487	1	10		NANT'KET Co.			
					Nantucket, .	1,250	1	10 15

\* Towns for the first time returned as keeping a High School.

† Towns known to have commenced High Schools since the date of the last returns.

*Towns having less than Five Hundred Families.*

TOWNS.	No. of High Schools.	No. of Months kept.	TOWNS.	No. of High Schools.	No. of Months kept.
ESSEX Co.		Mos. Dya.	Worcester—Con.		Mos. Dya.
Georgetown, . . . . .	1	10	Southborough, . . . . .	1	10
Manchester, . . . . .	1	8 12	Upton, . . . . .	1	2½
MIDDLESEX Co.			Westminster, . . . . .	1	2½
*Ashby, . . . . .	1	4 5	HAMPSHIRE Co.		
*Belmont, . . . . .	1	10 10	Hadley, . . . . .	1	10 10
Concord, . . . . .	1	10	Williamsburg, . . . . .	1	9 10
Lexington, . . . . .	1	10	HAMPDEN Co.		
Lincoln, . . . . .	1	7 15	Brimfield, . . . . .	1	10 10
Pepperell, . . . . .	1	8	BERKSHIRE Co.		
Sherborn, . . . . .	1	8	Dalton, . . . . .	1	6
Weston, . . . . .	1	10	Hinsdale, . . . . .	1	5 10
Winchester, . . . . .	1	10	†Lenox, . . . . .	1	—
WORCESTER Co.			†Stockbridge, . . . . .	1	—
Bolton, . . . . .	1	10 10	NORFOLK Co.		
†Northborough, . . . . .	1	—	Cohasset, . . . . .	1	10
			DUKES Co.		
			Edgartown, . . . . .	1	8 10

\* Towns for the first time returned as keeping a High School.

† Towns known to have commenced High Schools since the date of the last returns.

Whole number of towns required by statute to keep High Schools, . . . . . 131

Number of schools maintained in said towns, . . . . . 116

Number of schools in towns not required by statutes to maintain High Schools, . . . . . 25

Whole number of High Schools, . . . . . 141

Number of schools kept over nine months, . . . . . 111

Number of schools kept six months and under nine, . . . . . 16

## NORMAL SCHOOLS.

At the semi-annual meeting held on the 6th June last, the Board adopted the following vote:—

*Voted*, That in the opinion of this Board it is deemed expedient, as an experiment, to place the Framingham Normal School under the principalship of a lady teacher; and that the Visitors be instructed to engage a lady Principal, and to make all necessary arrangements with reference to such a change in the management of the school, to go into effect at the beginning of the next term.

The duty thus devolved upon the Visitors was promptly performed, and at a special meeting held at the Normal School-house in Framingham, on the fifth day of September last, being the first day of the Fall Term, the Board unanimously confirmed the action of the Visitors, and declared Miss Annie E. Johnson duly elected as Principal of the school.

Very interesting exercises were thereupon held, inducting Miss Johnson into office, under the conduct of Mr. Mason, the chairman of the Board of Visitors.

After a pertinent introductory statement by Mr. Mason, His Excellency Governor Bullock, gave an eloquent address, which was followed by an able and valuable one by ex-Governor Washburn. Remarks were also made by Rev. Dr. Clarke, a member of the Board, by the Secretary and Agent, and other friends of education.

The addresses of Messrs. Bullock and Washburn will be found appended to the Report of the Board.

The "experiment" during a single term has been eminently successful. The well-known abilities of Miss Johnson and her long and successful experience as a teacher, leave no ground for doubt that the school under her management will continue to maintain the high position which it has hitherto occupied.

At no previous period have the Normal Schools enjoyed, as a whole, a higher degree of prosperity; been conducted and taught with a more entire reference to the end for which they were established; or been held in greater esteem by the intelligent citizens of the Commonwealth, than at the present. Under the direct and constant supervision of this Board, they are taught

by Principals of marked ability and of large experience as teachers, aided by able and devoted assistants, most of whom have been educated in these schools and thoroughly understand the nature and object of the work in which they are engaged. The untiring industry and enthusiasm manifested alike by the teachers and pupils in their daily work is worthy of all commendation.

The revised course of study recently adopted, is cordially accepted and steadily pursued in all the schools. The object sought to be attained in the arrangement of this course of study, as in the establishment of the schools themselves, is to prepare in the best practicable manner the graduates for teaching in the Public Schools, and especially in those grades below the High Schools where the great majority of the children of the Commonwealth are found. This object is kept steadily in view by the teachers. Every exercise and every lesson recited looks to this end. And that it is, as a whole, satisfactorily attained will be acknowledged by every intelligent and impartial inquirer. These schools have been in existence a quarter of a century. The graduates are scattered throughout the Commonwealth, and are found in schools of every grade, but chiefly in the Common Schools. The eyes of an intelligent community have been upon them and their work. What has been the result of this scrutiny, what valuation is placed upon their labors, cannot indeed be stated in figures and quoted in the price current, like bales of cotton or bank stocks, but must be judged of by their effects in gradually improving the character of the schools, and elevating the standard of education in the towns or neighborhoods where such teachers are employed, and especially by the urgency of the demand created for Normal teachers after a fair trial and experience of the value of their teaching.

Now I have no hesitation in affirming that, judged by either mode, the Normal Schools may safely challenge the severest scrutiny, provided always that it be honest. The anxious observation and inquiry for twenty-five years of the past and present members and officers of this Board, and of the most enlightened and devoted friends of popular education in every section of the Commonwealth; and the recorded judgments of committees having the personal and immediate supervision of the schools, furnish evidence most satisfactory and conclusive as to the salutary effects produced by trained teachers, in the methods and processes

of instruction, in school organization and the management and discipline of the schools, and more than all in forming a better estimate in the community of the true object and value of its school system.

And in respect to the demand for Normal teachers, it is well known that it has been constantly increasing, till now scarcely a tithe of the calls can be met.

I have been led into this course of remark by the reading of certain strictures on these schools, found in a treatise, published in another State, and entitled "The Daily Public School." It is a pamphlet of one hundred and fifty-eight pages, devoted largely to the consideration of, or rather criticisms upon the Public School systems of Ohio, Pennsylvania, New York and Massachusetts. It is written by a practised hand, in a calm and confident spirit, and with an apparent resort to facts as the ground of conclusions, well calculated to arrest the attention and win the confidence of those who have not been practically familiar with the subjects discussed. It has thus received favorable notices from various periodicals; and the partial endorsement of our oldest and leading literary review. Judging of the whole book by the spirit and manner in which the Public School system of our own State is handled, I think it would be difficult for a candid and intelligent reader to resist the inference that the worthy author had addressed himself to his work, not so much with the purpose of arriving at just conclusions from the broadest survey and most careful consideration of all the facts, as that with opinions already formed he had endeavored by a skilful, not to say adroit, selection of some facts, and omission or modification of others, to find support for these opinions; that he had used his facts as an advocate and not as a judge, or in the spirit and after the manner of the man who first adopts his creed and then gravely hunts through the pages of his Bible for proof-texts to sustain it. A single specimen or two may be given. Starting with the assertion that the schools of the present day are not doing their proper work as thoroughly and well as did the "same class of schools forty or fifty years ago;" and that the "science and practice of education, in any proper sense of the term," have not "advanced, as have the science and practice of agriculture, and the mechanical and manufacturing arts;" an assertion which he supports by a single paragraph culled from the school report of a single town, he



finds in a statement of this Board "that the removal of the agencies employed by the State for sustaining and improving our school system" "would be to suffer the whole system to relapse into a state of little better than suspended animation," that is to say, the state of "forty or fifty years ago," in which these agencies found it and from which they have elevated it, and also in the exhortations of sundry town reports to parents and others, to the exercise of a greater vigilance, and the infusion of a higher life into their school systems, a warrant for the following queries:—"Is it not a fair inference that however curious and imposing the machinery, the daily Common School is not imbedded in the popular sympathy? Were the interior life what it should be, might not this constant pressure from without be lessened, if not withdrawn?" And triumphantly closes as follows:—

"There is, moreover, an item or two of positive evidence that the interest of the people in the subject, if not sensibly diminished, suffers perilous alterations. The sum raised for educational purposes was less last year than the year before; the length of sessions and average attendance were less. The average wages of both male and female teachers were reduced, though the expenses of living had increased; and of the fourteen counties of the State, thirteen decreased the amount raised by taxation for the support of Public Schools."

"A single fact is worth a score of speculations. A law of the State prohibits the employment by manufacturing establishments of children who have not a certain measure of schooling! So much more value did sundry parents attach to the muscles than to the minds of their children, that they actually removed from the State that they might be at liberty to keep their children at work the entire year, losing no time for their schooling!"

Such is the manner in which facts are used to prove that "the daily Common School is not imbedded in the popular sympathy." Let us examine these facts. "The sum raised for educational purposes was less last year than the year before." True, there was a reduction, but under what circumstances? The year spoken of was that of 1862-3—the first in which taxes had been voted after the breaking out of the "great rebellion." The people were patriotically rousing themselves to meet the great exigency. In obedience to the calls of the country, they were straining every nerve in arming, equipping

and sending volunteers into the field. They retrenched expenses, they husbanded their resources, and naturally enough, although unwisely and without due consideration, they reduced their appropriations for schools. The amount of the reduction was but \$66,485.98, leaving the amount raised larger than in any year previous to 1860.

Now in view of the well known fact that for more than a quarter of a century, there had been a steady annual increase of our school appropriations, would not a candid mind have been led by this, the first reduction, made at a time and under circumstances so extraordinary, to another cause than the one assigned by our author? And how much more just such a reference would have been is shown by the fact that the reduction is not only the first, with a single exception, but also the last in our history, and also by the statement, already made, that during the five years embracing the period of the war, the school appropriations, raised by taxation, advanced from \$1,500,501.18 to \$1,998,177.89, an increase of \$492,676.26, or nearly 88 per cent.

But, says our author, a single fact is worth a score of speculations. "A law of the State prohibits the employment by manufacturing establishments of children who have not a certain measure of schooling;" and certain parents in a single city are alleged to have removed from the State to avoid the restriction. And this is proof that the school system "is not imbedded in the popular sympathy!" The very enactment, dictated by the popular will, to secure the blessings of the daily Common School to the unprotected children, and certain alleged but unauthenticated evasions of it, quoted as proof of the coldness of the popular heart towards the Public School! Can absurdity have a profounder depth than this?

But I will not pursue the track of our author farther in this direction. I proceed briefly to examine his statements and strictures upon our Normal Schools, and think I shall be able to show by proofs conclusive, how utterly he is mistaken in most of his assertions relating to these objects and uses in our school system.

The first and most serious charge in his bill of indictment against the Normal Schools is, that they do not aim to prepare and do not in fact prepare teachers for the Common Schools. This charge he sustains with characteristic ingenuity.

In the Twenty-Seventh Report the Secretary of this Board had used the following language: "The present course requires three terms of twenty weeks each, or a year and a half. Experience has shown that most of the first term must be spent in a careful review of the elementary branches, and in a thorough drill of the best methods of teaching them—thus leaving but two terms for the more advanced branches."

From this language, by ingenious garbling, the following is constructed. "*All needful preparation*" in the elementary branches, including thorough drill in the best method of teaching them *occupies six months, leaving under the former provision only twelve for a wider range of scientific and classical culture for which eighteen are wanted.*" And he then adds, "From this it would appear that three-fourths of the Normal training have respect to the higher grade of schools. It only contributes indirectly, if it contributes at all to improve the modes of instruction in the ordinary branches," &c.

And then, after quoting from the report of the Visitors of the Framingham School their opinions as to the true objects of the Public Schools he adds, "These important ends of the Public School might be answered, one would think, without any extensive *classical culture*," &c., thus using as a quotation, the words in italics, which he had previously interpolated into the language of the Secretary.

I give another instance of the peculiar method of this author. He quotes from the report of the Visitors of the Salem School an admirable statement of the objects and scope of the Normal School, the closing sentence of which *as it stands in the report* is as follows: "It must be evident to those who have witnessed the exercises in this school that the education it imparts is eminently calculated to develop these high qualities." This sentence he makes to read as follows: "that the education which the Normal School imparts is eminently calculated to develop these high qualities *if they exist.*" Having thus made the phrase in italics, which is his own, a part of the language of the report, he exclaims: "Aye, *if they exist!* and it is their existence which makes the sort of man who is described."

He proceeds to argue, or rather to insinuate, the worthlessness of the Massachusetts Normal Schools, because they cannot make good teachers when the original capacities are wanting; cannot

develop or create that enthusiasm so characteristic of the good teacher ; and “ can no more make good teachers than theological schools can make eloquent preachers, or military schools can make brave and skilful officers.”

I remark here in passing, that the most ardent advocate of Normal Schools may well be content to rest the argument on such analogies as these. Not to speak of Theological Schools, now universally regarded as the indispensable instrumentality for training learned and eloquent men for the Christian pulpits of the land, the shining record made by the graduates of our national military academy, with Grant and Sherman, and Thomas and Sheridan at the head of their column, during the great struggle for national existence just now closed, has forever settled the question that, in one department at least of human activity, a careful and thorough preliminary training is the only sure ground of success.

It is just because the Normal Schools have furnished and are now furnishing a noble band of young men and women for another kind of warfare, less conspicuous but not less important—the warfare of truth with error, of light and knowledge with darkness and ignorance—that they have won and will continue to hold a high place in the regards of an intelligent community.

Again, having laid down as a criterion of judgment that “ however valuable in themselves may be the instruction and training they”—the Normal Schools—“ give, or however advantageous to the pupils in attendance, their claim to be regarded as an essential part of the machinery of public education, rests on the positive and palpable advantages which the daily Public School, to which the multitude resorts, derives from them”—a rule by the way to which there can be no objection, and one which we in Massachusetts have applied to our Normal Schools from the beginning,—he complains of the difficulty he finds in tracing the effect of Normal teaching in the Commonwealth ; asserts that there is rarely an allusion to these schools in the reports of the town school committees ; and deduces from this absence of commendation and allusion the following conclusion :—

“ And while we are not disposed to question the high praise bestowed on these schools, or to deny them the importance which the Board and the Secretary claim, we do not perceive that evidence of their practical value

which justifies it. Possibly the higher class of schools may have reaped advantages from them, and in this indirect way the public may receive a full equivalent for its outlay."

When it is remembered that the author's search for proofs, was only through a single volume of the reports of the Board, (the 27th) containing 238 pages of extracts from ten volumes of the reports of 333 towns, one would think that he might well hesitate to draw very broad and sweeping conclusions from the lack of full statement on any single subject; and the more especially when he could have no means of knowing whether the extracts were made with reference to that subject.

How utterly inconsequential is the author's mode of reasoning in this particular instance, and how worthless his conclusions, will be manifest, when the fact is stated that, in making the extracts, not only was there no attempt to collect evidence as to the character and standing of the Normal Schools and their relation to the Public Schools, but such evidence when found was purposely omitted; and for the simple and sufficient reason that all questions of that nature had been fully and satisfactorily settled by the observation and experience of twenty-five years. Moreover, the results of this long experiment had been carefully collected, collated and published in a previous report of the Board. These questions had been settled, and that too by a community not undistinguished for "keen hard sense," and not predisposed to expend its resources on chimerical or doubtful experiments; and the attempt to accumulate proofs would have been a most useless endeavor.

But I will not follow this remarkable "tractate on" Massachusetts "education" farther. Enough has been given to show the intent, the manner and the spirit of the performance. Its fitting conclusion is in the following words:—

"But we cannot resist the conviction that a grade of instruction, far in advance of what the spirit of the law and public policy demand, engages the attention and means of the Massachusetts Bureau of Education, and that while ten of the children and youth are favored at public expense with superior advantages, the one hundred or the one thousand that are entitled to be thoroughly taught to read, write, cipher and behave themselves, are left in the back ground."

Strangely, indeed, Gentlemen, does such a deliverance sound in the ears of one, whose privilege it has been for many years to witness your untiring labors in devising and executing plans for giving the best possible education to every child in the Commonwealth, of whatever race, or however humble his condition. But I shall not spend the time to answer it.

When an unbelieving Jew, soon to become a disciple of the Great Teacher, inquired of his fellow, "Can there any good thing come out of Nazareth?" the fitting and confident response was, "Come and see." Such is our reply to the author of this pamphlet. He is a native of our Commonwealth; was, doubtless, a pupil in his boyhood of the schools of "fifty years ago" which he holds in so high esteem; from the examination of a single volume he has formed and published to the world wild conclusions relating to the schools of the present time. We invite him to "come and see;" to return for a little space to the scenes of his early days. He will find that changes have taken place, and not all of them, perhaps, for the worse. He will find that the old school-house with its huge fire-place and rough benches has been supplanted by a more tasteful edifice with comfortable chairs and desks, and better means of securing warmth and ventilation; that the instruments of torture and terror have largely given place to the blackboard and globe, to books of reference and illustrative apparatus. And what is better than all "machinery," if he will traverse the State from the sea to the mountains, and look in upon five thousand Common Schools of the city and of the rural town, he will find in them thousands of well educated, thoughtful, earnest and Christian teachers, and gathered around them *ten times* "ten thousands" of happy children, who are taught to "spell" as well, to "read" better, to speak and write the English tongue better, to "cipher" better, and to "behave themselves" quite as well as the children of the former age of the ferule and the birch rod; he will find, moreover, one hundred and forty Public, *Common* Schools of a higher grade,—schools of which he thinks but poorly, but which, known as the Grammar Schools of the early times, our fathers cherished so highly,—wherein the children of the poor and the children of the rich are sitting side by side and pursuing such courses of study as shall fit them for serving their generation in higher and broader spheres of usefulness. And, unless we are greatly

mistaken, he will learn from all this, that it was not an act of wisdom or of justice to bring a "railing accusation," or to attempt to frame a bill of indictment, against the most cherished institution of the "Puritan State," without having at least a tolerably full and correct understanding of the facts of the case.

The present seems to be a proper occasion for presenting some direct and positive evidence, derived from the highest sources, relating to the course of study and training in the Normal Schools, and to the influence which they exert upon the Public Schools of the Commonwealth.

The following inquiries, in substance, were recently addressed to the Principal of each of the schools :—

1. What proportion of the graduates of your school teach ?
2. In what class of schools do they teach ?
3. Are your pupils specially trained to teach in the Common Schools ?
4. What success do they meet with in teaching ?
5. How long do they teach on an average ?
6. What is the demand for Normal graduates as teachers ?

To these inquiries I have received the replies which are given below.

Miss Annie E. Johnson, of the Framingham School, writes under date of January 4, 1867 :—

I have looked over the record of our classes to-day, and I can furnish some positive statements with regard to the six classes preceding the one which graduated last January, together with the two of last year.

	No. of Graduates.	No. of Teachers.		No. of Graduates.	No. of Teachers.
July, 1862, . .	13	13	Feb., 1865, . .	21	17
Feb., 1863, . .	19	17	Feb., 1866, . .	25	15
July, 1863, . .	24	22	July, 1866, . .	26	18
Feb., 1864, . .	23	20		173	138
July, 1864, . .	22	16			

Of this number of teachers three have taught in High Schools, four have been employed in our own school, two at Salem and two at the Normal School at Farmington, Maine. All the others have been or still are teaching in Common Schools. Of the thirty-five who have not taught, six have been in our advanced course here and are to be graduated this month, all intending to go immediately to teaching. It is very probable that others of the thirty-five are teaching without my knowledge, as we have no record kept of the pupils after they leave school, and it is only by chance that I have been able to tell about so many.

We have only two pupils in school now who do not intend to teach.

If our course of study is not a reply to any charge made of neglect of the common branches of study, I cannot make one.

The whole drift of our instruction, the mark at which we constantly aim, is the fitting of our pupils to become teachers in Common Schools.

As to their success in teaching, I can only say that we receive frequent applications for teachers from those places in which our graduates have been employed in past years.

I think I have had fifteen applications for teachers whom I could not supply, since the first of November.

I cannot state positively but it is my impression that two-thirds of our graduates teach at least six years. And considering that the average life of a teacher is reckoned to be twenty-seven years by some authorities, and that the compensation in our Common Schools is very meagre, this seems to me a large return for the expense of the Normal Schools.

From A. G. Boyden, Esq., of the Bridgewater School :—

My Dear Sir,—Your letter asking information concerning the graduates of this school is received, and I am happy to be able to communicate as the result of careful examination, the following answers to the several points of inquiry :—

1. "What portion of the graduates of the school teach?"

During the last six years while I have had charge of the school, *seven-eighths* of all the graduates have engaged in teaching. Of the one-eighth who have not taught several were young men who went into the army, and some other young men are extending their course of study at college. For the years before 1860 I cannot give as definite statements, but find good reason for believing that the percentage of graduates who taught will differ very little from that of the last six years.

2. "In what class of schools do they teach?"

Of the graduates of the last six years, ninety-eight per cent. of those teaching have taught in the Public Schools of the State, two per cent. in private schools. Five of these graduates have been employed as assistants



in Normal Schools. About two-fifths of the young men have taken charge of annual Grammar Schools in the larger towns; the remaining three-fifths are chiefly employed in District Schools. The young lady graduates have nearly all been engaged as principals, or assistants in Grammar, Intermediate, Primary and District Schools. A few have taught in High Schools. Our graduates universally prefer to teach in the Public Schools. The percentage of the graduates who have taught in the Public Schools (Common Schools I mean,) has always been about the same.

3. "Are your pupils specially trained to teach in the Common Schools?"

The entire work of the school from the beginning to the end of the course of study is conducted with constant regard to preparation for teaching in the Common School. More than one-half of the course is spent in *direct* study of the branches taught in the Common Schools, to complete a thorough knowledge of them and to find the best method of teaching them. The remainder is spent in the same way upon those advanced studies which every teacher needs to know to be a good teacher of the common branches, or to teach in a higher grade of school, if need be,—and in the study of the theory and art of teaching, and learning how to organize and govern a school. It is the *primary* object of the school to give special training for teaching in Common Schools. Students come to the school to get this training, and because other schools do not furnish it.

4. "What success do the graduates meet with in teaching?"

A few fail entirely, finding on trial that they are not well adapted to the work. The number in this class is very small. Some others *at first* meet with only partial success, sometimes from having too hard a school for a beginner, more frequently from want of that sympathy, counsel and support from school committees, which most young teachers need in their first efforts. But the large majority of them are entirely successful in their work, and some of them eminently so, which is shown by the fact that they fill some of the most prominent and responsible positions in the Public Schools. They are commended by committees for their professional enthusiasm, for the interest in study which they excite in their pupils, for the vivacity and thoroughness of their teaching, and for good government in their schools.

5. "How long do the graduates teach on an average?"

It is difficult to obtain the requisite data to give a definite answer to this question. Mr. Tillinghast, the Principal of the school for the first thirteen years of its life, said the lady-graduates taught on an average three years. This estimate cannot be far from the truth for the lady-graduates since his time.\* The gentlemen teach very much longer. Many of them have made teaching a profession. Several of these have

\* Mr. Boyden has since stated to me that he regards this estimate as too short for the graduates of the present time.

taught more than twenty years, and many others more than ten years. (I send a list of names and positions which will show where some of the gentlemen are.) Five-eighths of all the graduates who have commenced teaching since 1860 are now teaching.

6. "What is the demand for Normal graduates?"

During the last two years the number of applications for teachers which I have received is (by actual count) nearly *five* times the number of graduates for this time. The applications often say "we want teachers trained for their work," or "we have had one excellent teacher from your school and want another." These applications come from all parts of the country and for teachers for all kinds of schools, public and private.

These facts speak for themselves. But the indirect influence which the Normal School exerts through its graduates and methods of teaching upon those teachers who do not attend it is not to be forgotten. The Normal School has done much to give dignity and character to the teacher's calling, and to improve the teaching in all the schools. "The discipline of the Normal School tends not only to make better teachers, but tends to make better men and women," is the testimony of an intelligent young woman who has tested her statement by experience.

Mr. Boyden appends to the foregoing letter, a most interesting statement with reference to a large number of gentlemen, the graduates of the Bridgewater School, who have occupied important positions as teachers, and most of whom are now engaged in teaching. He gives names, and dates, and places occupied. I content myself with a general statement.

First he names seventeen gentlemen who have been employed in State or city Normal Schools. Seven of this number have been or now are Principals. It includes, besides his own, the names of Dana P. Colburn, deceased, and Richard Edwards, for six years Principal of the Normal School, at Salem, and now President of the State Normal University, Illinois.

He gives the names of six graduates who are conducting or are assistant teachers in popular and successful Private Schools in Massachusetts.

This is followed by a list of the thirty-seven names of graduates employed in the Grammar Schools of Massachusetts. It should be borne in mind that the Grammar Schools of the present time are the *Common Schools* of the cities and larger villages.

Mr. Boyden adds: "The above-named men graduated under Messrs. Tillinghast and Conant, before 1860. They have had a

long period of service, and are nearly all now teaching ; some of them have taught over twenty years." I may further add that among the names, if published, would be recognized, not a few of the most successful and honored members of the profession in the Commonwealth.

Mr. Boyden then gives the names of twenty graduates of the school since 1860, the larger number being masters of Grammar Schools, one a teacher in an Academy, and two in the Academic Department of Washington University, St. Louis, Mo.

He then remarks :—

"I have enumerated in this list only those who hold *leading, permanent* positions in the larger towns, and these positions are all in the *Normal* and *Common* Schools, except the few named who are in Private Schools. This list does not include the *larger* number of graduates who are teaching in the smaller towns and in the ungraded schools. Doubtless I have omitted many from this list, for it is difficult to keep trace of the older graduates. Others are in prominent positions in the Public Schools of other States.

"The *lady* graduates are too numerous to particularize. Many of them have occupied prominent positions in Normal Schools, High Schools, and Common Schools. The first lady Principal of a Normal School in this country was a graduate of this school,—Mary J. Cragin, in St. Louis Normal School. They have been, and are, filling the places of assistants in Normal Schools. Several of them are head assistants in Boston ; one has charge of a large Grammar School in Roxbury, and others have charge of Grammar Schools in smaller towns. The *large majority* are teaching in ungraded District Schools."

D. B. Hagar, Esq., of the Salem Normal School, writes as follows :—

My Dear Sir,—Yours of the second has this moment reached me. I shall be glad to furnish you with any facts within my command, in relation to the subject-matter of your note.

It happens that I have been gathering facts in regard to this very subject, so far as this school is concerned. It has for some time been my purpose to show in my semi-annual report to the Board of Visitors at the close of this term, that Mr. ——— allegations were utterly false, so far at least as the Salem school is concerned.

At the last Triennial Convention of the past members of this school, especial efforts were made to ascertain the number of our graduates that

had taught, and the number still teaching. The facts thus ascertained, added to those which Mrs. Crosby is kindly noting down for me, will enable me to report a pretty accurate statement. A summary has been nearly completed, and I am surprised to find that so large a proportion of our graduates have taught and are still teaching. I will send you the figures within a day or two. These will answer your first question: "How large a proportion of the graduates teach, &c.?"

To your third question, I reply that more than three-fourths of the time of our two years' course of study is devoted exclusively to those branches and exercises which the Common Schools are supposed to require. And those studies here pursued which are not taught in Common Schools, such as Mental Philosophy, Geology and Geometry, are not attended to because it is our purpose to fit ladies to teach in High Schools, but because such studies are calculated to give a general development to the mind and thus to prepare our pupils to teach common studies more intelligently than they otherwise would. Our pupils are made to understand that the undergraduate course is designed to fit them to teach in Grammar and Primary Schools *only*, and that if they aim to teach in High Schools, they must go through the advanced course.

Of those who have graduated from this school since I took charge of it, nearly, if not quite all are now teaching; and, so far as I am informed, they are, with a *single* exception, teaching in our Common Schools. This statement includes the graduates of the advanced class as well as the graduates of the regular course.

In reply to your question relating to the success of our graduates and the demand for their services, I will state a fact or two. A veteran teacher from a city adjacent to Boston, came to me a while ago and said: "I want a teacher from your school. I used to take graduates of our High School, as my assistants, but for some reason they failed. I have had six teachers from your school, and they have all succeeded. I want another." Another gentleman, master of a Grammar School in a town in Essex County, said to me some months ago: "I have had three first-rate teachers from your school. I want one more." I have since then supplied him with two of our recent graduates who, according to a statement which he gave me yesterday are succeeding admirably. Every day or two I receive applications from school committees for graduates of this school. I can hardly begin to supply the demand.

I do not mean to say that all of our graduates succeed in teaching. Some, from a lack of governing power, fail in their efforts; but I am certain that a very large proportion do succeed, and that very many, aided by the training they here received, achieve success, who otherwise would fail.

Under date of January 4, Mr. Hagar favored me with the following letter and table of statistics :—

I have been doing a little figuring to-night, the result of which I send you herewith. The table tells its own story; and it seems to me to be one that shows a good record for this school.

This fact, also, should be kept in mind: that this report, if in any respect erroneous, is not so favorable to the school as it ought to be. It gives the numbers who are *known* to have taught, to be teaching now, to have married, and to have died. In regard to some of the graduates, information relating to these points has not been obtained. Undoubtedly a complete report concerning every graduate would be considerably more favorable to the school than the one now sent to you.

It is sometimes carelessly asserted that nearly all our graduates get married. The report shows that of all our graduates up to January, 1866, only  $22\frac{47}{100}$  per cent. had married.

It has also been said by some people that the graduates of the Salem school get their training here at the cost of ruined health. It is a remarkable fact that in ten and a half years from the time the first class graduated, only  $3\frac{78}{100}$  per cent. have died, showing that the constitutions of the graduates had not been very seriously undermined.

It should also be borne in mind that a *large proportion* of those members of the school, who, on account of limited means or other cause, did not complete the full course of study, so as to graduate, have engaged in teaching. The precise number I have not the means of knowing.

The *average* length of time the graduates have taught I am unable to state. From the large per cent. of the earliest classes who were teaching in January, 1866, it is fair to infer that the average length of time must have been very creditable to the school.

No. of Class.	TIME OF GRADUATION.	No. of Graduates.	No. known to have taught.	Per cent known to have taught.	No. known to be teaching, July, 1866.	Per cent known to be teaching, July, 1866.	No. known to have married.	No. known to have died.
1	Feb., 1856, . . .	53	41	.77 $\frac{1}{2}$	16	.30	22	4
2	July, " . . .	17	17	1.00	5	.29+	4	1
3	Feb., 1857, . . .	16	13	.81 $\frac{1}{2}$	6	.37 $\frac{1}{2}$	-	-
4	July, " . . .	12	12	1.00	3	.25	6	1
5	Feb., 1858, . . .	9	9	1.00	5	.55 $\frac{5}{8}$	3	-
6	July, " . . .	21	18	.85 $\frac{4}{7}$	9	.42 $\frac{4}{7}$	8	2
7	Feb., 1859, . . .	19	18	.94 $\frac{1}{2}$	7	.36 $\frac{1}{2}$	9	2
8	July, " . . .	22	18	.81 $\frac{2}{11}$	12	.54 $\frac{2}{11}$	3	1
9	Feb., 1860, . . .	23	23	1.00	11	.47 $\frac{2}{11}$	7	1
10	July, " . . .	26	24	.92 $\frac{4}{13}$	12	.46 $\frac{2}{13}$	8	1
11	Jan., 1861, . . .	23	21	.91 $\frac{1}{3}$	17	.73 $\frac{2}{3}$	6	-
12	July, " . . .	26	22	.84 $\frac{8}{13}$	14	.53 $\frac{8}{13}$	4	1
13	Jan., 1862, . . .	17	16	.94 $\frac{2}{17}$	9	.52 $\frac{1}{2}$	4	-
14	July, " . . .	20	20	1.00	12	.60	3	-
15	Jan., 1863, . . .	11	10	.90 $\frac{1}{2}$	8	.72 $\frac{4}{11}$	1	-
16	July, " . . .	12	11	.91 $\frac{1}{2}$	9	.75	1	-
17	Jan., 1864, . . .	15	13	.86 $\frac{2}{3}$	10	.66 $\frac{2}{3}$	-	-
18	July, " . . .	19	19	1.00	12	.63+	1	-
19	Jan., 1865, . . .	20	16	.80	14	.70	-	1
20	Jan., 1866, . . .	16	12	.75	10	.62 $\frac{1}{2}$	-	-
Total, . . .		397	353	.89	201	.50 $\frac{82}{166}$	90	15

Adding the number who are married (90) and the number who have died (15) to the number who were known to be teaching in July, 1866, we have a total of 306, which is 77 per per cent. of 397, the whole number of graduates. This leaves but 23 per cent., who in July last were either not teaching, or not accounted for.

J. W. Dickinson, Esq., of the Westfield Normal School, states :

In 1865 there graduated from the Westfield Normal School twenty-seven teachers. I know from reports I have, that all of this number have taught since graduating. In 1866 the number of graduates was thirty-four. Of this number I know that thirty-three have taught since graduat-

ing. I do not know but the other one has taught also. Sixty-one teachers have graduated in the last two years. All but one of the number are known to have taught since graduating, and the *one* may also have taught. *All* but three or four of the sixty-one are now teaching.

All but eight have taught in schools below the grade of High Schools.

We are not able to supply one-twentieth of the demand for Normal graduates. The demand has increased within the last year to a wonderful degree.

Some of our teachers fail. A very large majority succeed, and they not unfrequently succeed to such a degree as to arouse the enthusiasm of whole communities into which they go, in regard to right modes of teaching.

In all the Normal Schools of Massachusetts, the course of study is the same. This course, as may be inferred from the course itself was made out with especial reference to the wants of Common Schools.

In our school, we confine ourselves strictly to this course, prescribed by the Board of Education. In all the branches taught, we begin with the simplest elements, and we require our pupils to study and recite with a constant reference to a mode of teaching these elements to children found in the Common Schools.

Our success in fitting teachers for the first grade of Common Schools, viz., Primary Schools, may be known from the fact, that out of a class of sixteen, graduated last July, six were selected to take charge of large Primary Schools. These teachers have already had marked success. Our careful study is to prepare our graduates for elementary teaching.

Nothing is done by us from first to last, in the two years' course, that does not have a direct and obvious bearing upon Common School instruction. Not a lesson is learned or recited by the Normal student, during his course, but that his attention is constantly turned to the mode of teaching the knowledge he is acquiring, to pupils of the age, and in the condition of those found in the Common Schools.

And more than this, the Board of Education have permitted the West-field Normal School to have a School of Observation, consisting of three departments, called Primary, Intermediate and Grammar Schools. These three grades of Common Schools are related to our school, for the purpose of affording the students in the Normal School an opportunity of observing the practical application of what is taught in their own classes, so that they can graduate the better fitted for their future work.

Our students are close observers of these schools, and they spend more time observing the teaching in the Primary department, than in observing that of either of the other two departments.

There is one other thing the Normal Schools do, which is almost entirely overlooked by those who criticise them.

The trained graduates of these schools have a professional enthusiasm that cannot be found in any other class of teachers. The professional training the graduates receive, adds so much importance, and such a charm to the work of teaching, that their whole souls become enlisted. This last consideration is of the highest importance, and should never be forgotten in estimating the value of Normal Schools. The Normal Schools are elevating teaching into a profession.

As is well known, Rev. Mr. Northrop has, for the last eleven years been employed as the Agent of the Board, in visiting and lecturing in the towns of the Commonwealth. He has become acquainted with more schools, and a greater number of teachers, and of school committees, and had better opportunities of forming an intelligent opinion on the subject in hand, than any other man. I have therefore requested him to state the results of his observations on this subject. He writes as follows :—

Hon. J. WHITE :—

My Dear Sir,—In accordance with your request I give you in brief the results of my observations in all parts of Massachusetts, in relation to the graduates of the State Normal Schools. You wish me to give prominence to two questions.

1. "Are the Normal graduates found teaching in our schools?"

2. "In what grade of schools are they thus found?"

I. In answer to your first inquiry, I would say,—

1. That the motive which originally attracted them to the Normal School, was, I am confident, a desire to prepare for the business of teaching. In my visits to the several towns of the Commonwealth I have conferred with large numbers of "candidates" as to the expediency of attending a Normal School. Their inquiries have almost invariably expressed or implied a desire and purpose to teach.

2. In frequent visits to the Normal Schools, and in familiar conversation with the members, the same purpose has been the one constantly avowed. Without such an aim, one would hardly feel at home here. The subjects and methods of study, the daily drills, "the general exercises," "the teaching exercises," and the discussions on school economy, school laws, and school government, all point directly to the work of the school-room. The professional character of the instructions are not, I think, made more prominent and decided in the schools of Law, Medicine or Theology, than in the Normal School.

3. Attending usually the closing examinations of these schools, I have learned much of the plans of the classes at the time of their graduation.



These plans look to the school-room and that, not in order to fulfil the pledge taken as the condition of admission to the Normal School. Their hearts are evidently in the work. Many of them already have schools engaged. The interest and enthusiasm with which all anticipate their chosen field of labor, are signs of promise. Their Normal training has tended to inspire them with a love of the work, and exalted their estimate both of its importance and its difficulties. With some degree of conscious preparation and courage to meet these labors and trials, is often coupled a stronger sense of the demand for continually enlarging culture. These facts as to their motives in entering the school, during the course and on graduation, furnish only probable evidence in reply to your question "Do they actually teach?" To which,—

4. I answer directly in the affirmative. In my visits to the towns, I have aimed to renew the acquaintance formed in the Normal Schools. One of my usual points of inquiry has been, "How many Normal graduates are employed in this town?" In a few towns the reply is, "We cannot get them. The wages we offer are too low." In others, "We applied, but were too late; all were engaged." In very many towns, from one to six or eight Normal graduates are employed. I have often visited them in their schools, and there I have found the strongest proof of the value of the Normal School system, not only in improved methods of instruction, but in a wiser system of influence, in the judicious use of more and better incentives to studiousness and good conduct. With rare exceptions the Normal graduates certainly do teach.

II. In answer to your second question, I reply,—

1. I have found them mostly in the Common Schools. For this grade they have specially prepared during the Normal course, which dwells largely on the methods of teaching the common English studies. In the Normal Schools these studies are pursued not so much for the purpose of learning them, as for the higher aim of learning how to teach them.

2. It is in the Common Schools, chiefly, that these graduates have achieved their most marked success. I have met instances of failure, but not more frequently in proportion to the numbers employed than in the other professions. With them I am confident, failure is the exception and not the rule. I should like to take the man who is still an unbeliever in Normal Schools, (for it seems such an one has been found,) to the Public Schools in ———, which I lately visited. They are taught by Normal graduates. Such has been their success, as to create an urgent demand for others like them whenever a vacancy occurs. If we visit only the Primary Schools and observe the skill evinced in teaching the alphabet, the sounds as well as the names, the rapidity of their progress in Reading, and Spelling, and Drawing, the interest shown in those beautiful lessons in objects, in color, form, size, measure, weight, the exercises in numbers, made clear and

attractive by the aid of beans, or pebbles, and the order and cheerful aspect of the schools, we need go no further into the other grades, for these happy little children will dissipate the doubts of our sceptic.

During the eleven years of my connection with your honored Board, I have met from year to year the clearest evidence that the Normal Schools have been steadily advancing in public appreciation. It is a significant fact, that this popular verdict is most clear and emphatic in those towns where the graduates have been most frequently employed, and where the people have become most thoroughly conversant with their influence upon the Public Schools. No small share of the progress of Massachusetts in education is due to the influence of these graduates, scattered as they are over all parts of the Commonwealth. Their enlightened views have reached beyond the school-room, or the time of their service as teachers. As citizens, as voters, and often as most efficient members of school committees, or as superintendents of schools, they are always the friends of wise improvements in education. I do not ever remember meeting a Normal graduate who was an advocate of the District system. On the other hand I have occasion to tender my cordial thanks to them for their efficient co-operation in my efforts to introduce the Municipal system in the towns which I have recently visited.

Very truly yours,

B. G. NORTROP.

#### LIBRARIES.

In the blank form of inquiry issued a year since, (1866,) school committees were requested to return the number of free Public Libraries, supported in whole or in part by tax, according to the General Statutes, chapter 33. They were also desired to make return of social libraries, or of all other libraries which were not the property of individuals.

The following tables have been prepared from the returns made :—

*Public Libraries.*

TOWN OR CITY.	No. of Free Pub. Libraries sup- ported acc'd to Gen. St. ch. 24.	When estab- lished.	No. of Vols.	Additions in 1885.	No. of vols. de- livered in 1885.
Boston, . . . .	1	1852,	128,016	6,082	207,717
Beverly, . . . .	1	1855,	4,400	85	9,300
*Danvers, . . . .	1	-	4,600	-	-
Lynn, . . . .	1	1862,	7,298	674	38,991
Newburyport, . . . .	1	1854,	11,447	517	19,467
†South Danvers, . . . .	1	-	12,000	-	-
Brighton, . . . .	1	1864,	3,565	782	12,658
Burlington, . . . .	1	1856,	697	35	1,860
‡Cambridge, . . . .	1	1858,	3,028	220	11,005
Charlestown, . . . .	1	1860,	9,086	627	73,057
Concord, . . . .	1	1853,	4,900	154	4,769
Framingham, . . . .	1	1855,	3,985	218	10,625
Groton, . . . .	1	1855,	1,592	7	2,504
Lowell, . . . .	1	1844,	12,411	287	50,000
Medford, . . . .	1	1854,	3,200	175	15,006
Natick, . . . .	1	1857,	4,000	100	20,000
Sherborn, . . . .	1	1860,	1,138	89	8,500
South Reading, . . . .	1	1856,	2,676	115	17,680
Stoneham, . . . .	1	1859,	2,575	174	15,170
Waltham, . . . .	1	1865,	4,500	230	12,245
Wayland, . . . .	1	1852,	3,379	50	3,812
West Cambridge, . . . .	1	1837,	2,200	140	7,554
Westford, . . . .	1	1860,	1,268	39	2,230
Weston, . . . .	1	1857,	2,500	98	5,207
Winchester, . . . .	1	1859,	1,579	73	3,875
Woburn, . . . .	1	1854,	3,298	575	-
Barre, . . . .	1	1857,	925	50	5,000
Bolton, . . . .	1	1859,	812	40	1,200
Fitchburg, . . . .	1	1859,	6,255	52	25,710
Harvard, . . . .	1	1856,	840	103	1,614

\* Branch of the Peabody Library.

† Free Public Library, established and aided by Geo. Peabody, of London.

‡ Tax of \$1 per annum.

*Public Libraries—Continued.*

TOWN OR CITY.	No. of Free Pub. Libraries supported according Gen. St. ch. 24.	When established.	No. of Vols.	Additions in 1866.	No. of Vols. delivered in 1866.
Lancaster, . . .	1	1862,	3,000	350	4,000
Leicester, . . .	1	1861,	1,500	55	1,891
Leominster, . . .	1	1856,	3,200	400	18,502
Lunenburg, . . .	1	1852,	933	36	3,007
Milford, . . .	1	1858,	2,714	25	20,169
Millbury, . . .	1	1864,	800	—	—
Phillipston, . . .	1	1861,	1,400	300	—
Southborough, . . .	1	1853,	2,385	33	4,818
Westborough, . . .	1	1857,	847	100	447
Worcester, . . .	1	1859,	20,000	1,000	67,533
Northampton, . . .	1	1860,	6,000	80	8,000
Springfield, . . .	1	1857,	23,061	3,934	89,500
West Springfield, . . .	1	—	—	—	—
Orange, . . .	1	1859,	620	—	7,800
Lenox, . . .	1	—	2,199	—	2,600
Brookline, . . .	1	1857,	8,502	982	19,793
Quincy, . . .	1	—	—	—	—
Fall River, . . .	1	1861,	4,322	471	22,321
New Bedford, . . .	1	1852,	20,000	543	35,035
Edgartown, . . .	1	—	450	—	—
Total, . . .	50	—	345,588	19,995	886,172

A similar table was contained in the Twenty-Fourth Report, from returns made in July, 1860. According to those returns there were then forty-five Free Public Libraries, containing 201,706 volumes, receiving annual additions of not less than 22,000 volumes, and delivering annually over 500,000 volumes.

The above table shows that in April, 1866, there were returned fifty Public Libraries, containing 345,588 volumes, receiving additions in one year, of 19,995 volumes, and delivering 886,172 volumes.

The above statement, which is incomplete, does not include Social Libraries, or other libraries not private, which are

presented in the following table prepared from returns obviously not full and accurate :—

*Social Libraries—libraries not private nor free.*

TOWN OR CITY.	No. of Social Libraries.	No. of Volumes.	TOWN OR CITY.	No. of Social Libraries.	No. of Volumes.
Boston, . . .	12	178,587	Chelmsford, . . .	1	407
Amesbury, . . .	2	2,475	Groton, . . .	2	1,000
Andover, . . .	4	38,000	Lowell, . . .	1	9,000
Bradford, . . .	1	267	Marlborough, . . .	3	1,750
Essex, . . .	3	1,300	Natick, . . .	1	450
Georgetown, . . .	1	1,000	Newton, . . .	1	12,000
Gloucester, . . .	1	2,500	Reading, . . .	2	600
Ipswich, . . .	1	550	Tewksbury, . . .	4	200
Lawrence, . . .	3	9,000	Townsend, . . .	1	569
Lynn, . . .	2	600	Waltham, . . .	1	300
Lynnfield, . . .	1	—	Westford, . . .	1	100
Manchester, . . .	1	—	Wilmington, . . .	2	100
Marblehead, . . .	1	700	Ashburnham, . . .	3	843
Middleton, . . .	1	141	Athol, . . .	2	300
Topshfield, . . .	2	240	Berlin, . . .	2	300
Wenham, . . .	2	350	Blackstone, . . .	2	2,780
Acton, . . .	2	300	Bolton, . . .	1	150
Cambridge, (22,) viz. :			Boylston, . . .	1	500
Lib'y & Scien. Soc'y,	4	1,200	Brookfield, . . .	1	625
Parish Libraries, .	8	3,268	Charlton, . . .	1	190
High School Library,	1	2,625	Clinton, . . .	1	3,746
Harv. Col. Students,	3	16,000	Douglas, . . .	1	300
Harv. Col. Library, .	1	110,000	Dudley, . . .	1	230
Law Library, . . .	1	13,000	Gardner, . . .	1	1,050
Theological Library,	1	16,000	Grafton, . . .	3	1,000
Lawrence Scien. Lib.,	1	7,000	Hardwick, . . .	1	99
Phillips Astron'l Lib.,	1	1,500	Hubbardston, . . .	2	500
Harv. Medical Lib'y,	1	2,000	Lunenburg, . . .	1	—
BillERICA, . . .	1	1,000	Northborough, . . .	2	—
Charlestown, . . .	2	1,200	Northbridge, . . .	1	2,200

*School Libraries—Continued.*

TOWN OR CITY.	No. of Social Libraries.	No. of Volumes.	TOWN OR CITY.	No. of Social Libraries.	No. of Volumes.
Oakham, . . .	1	250	Great Barrington, . . .	1	900
Princeton, . . .	1	500	Lee, . . .	1	200
Southborough, . . .	1	100	Pittsfield, . . .	1	3,500
Southbridge, . . .	1	1,319	Sheffield, . . .	1	150
Spencer, . . .	1	1,109	Williamstown, . . .	4	22,287
Sturbridge, . . .	2	300	Windsor, . . .	1	200
Uxbridge, . . .	1	—	Canton, . . .	1	2,700
Westborough, . . .	1	180	Dedham, . . .	1	2,000
West Brookfield, . . .	3	—	Dorchester, . . .	3	4,000
Westminster, . . .	1	350	Dover, . . .	1	—
Winchendon, . . .	1	1,300	Franklin, . . .	2	1,200
Worcester, . . .	28	78,686	Medfield, . . .	1	500
Amherst, . . .	2	33,000	Medway, . . .	2	1,050
Belchertown, . . .	1	170	Quincy, . . .	3	664
Chesterfield, . . .	2	—	Randolph, . . .	2	1,000
Easthampton, . . .	1	—	West Roxbury, . . .	2	3,000
Enfield, . . .	1	—	Weymouth, . . .	1	500
Granby, . . .	1	200	Wrentham, . . .	1	100
Hadley, . . .	1	517	Attleborough, . . .	1	—
Hatfield, . . .	2	1,000	Dighton, . . .	1	—
South Hadley, . . .	2	300	Fairhaven, . . .	1	700
Holyoke, . . .	3	—	Fall River, . . .	1	40
Longmeadow, . . .	1	400	Taunton, . . .	2	6,700
Ashfield, . . .	1	400	Abington, . . .	5	2,700
Conway, . . .	1	500	Bridgewater, . . .	1	750
Deerfield, . . .	1	600	Hingham, . . .	3	3,000
Greenfield, . . .	1	200	Lakeville, . . .	1	—
Leverett, . . .	1	150	Marshfield, . . .	1	250
Northfield, . . .	1	1,300	Middleborough, . . .	2	—
Orange, . . .	1	125	North Bridgewater, . . .	2	1,500
Rowe, . . .	1	320	Plymouth, . . .	1	2,500
Adams, . . .	2	4,000	Plympton, . . .	1	250
Dalton, . . .	1	735	Wareham, . . .	1	150

*School Libraries—Continued.*

TOWN OR CITY.	No. of Social Libraries.	No. of Volumes.	TOWN OR CITY.	No. of Social Libraries.	No. of Volumes.
Brewster, . . . .	1	700	Yarmouth, . . . .	1	125
Chatham, . . . .	1	-	Edgartown, . . . .	1	458
Eastham, . . . .	1	100	Nantucket, . . . .	1	3,770
Orleans, . . . .	1	575	Total, . . . .	265	643,886
Wellfleet, . . . .	1	25			

## SUPERINTENDENCE.

Next to the employment of able and skilful teachers, the exercise of an intelligent and careful superintendence, is the most important instrumentality in the successful management of our schools. It is no less true here than in any other enterprise which gives employment to any considerable number of persons, working separately, yet towards the production of the same result, that the highest degree of success in the result will largely depend on the skill and ability of the oversight employed. Accordingly, in every stage of our history, the Public Schools have been subjected to the supervision and control of some responsible parties, representing the opinions and will of the city or town. During the colonial period the management of the schools was a part of the duty of "ye' chosen men for managing the prudentiall affaires,"—now known as the "Select men."

Early in the provincial period, in 1701, a law was passed devolving the examination of the Grammar Schoolmasters on clergymen. The language of the law is as follows:—

That "every Grammar School-Master be approved by the Minister of the Town, and the Ministers of the two next adjacent Towns, or any two of them, by certificate under their Hands."

The Act of 1789 took an important step in advance of previous legislation. By this Act *ministers* of the *gospel* and the selectmen, or a *committee specially chosen* in their stead, were constituted a school committee. Such committee was required to *secure the attendance* upon the schools of *all the youth* in the town; to *visit the schools* once in *six months*, and inquire into

their *regulations* and *discipline* and the *proficiency of the pupils*, and also to “*see to the morals*” of the teachers.

This system of supervision continued till 1826, when an Act was passed, March 4, which provided, “That each town in this Commonwealth shall, at the annual March or April meeting choose a *School Committee*, consisting of not less than five persons, who shall have the general charge of all the schools in said town.” The duties imposed upon this committee were substantially the same as those performed by school committees at the present time.

In the revision of the School Laws in the following year the towns were required to elect three, five, or seven persons, and towns having four thousand inhabitants might elect an additional number, not exceeding five. By the Revised Statutes the larger towns might choose six additional members instead of five.

In all these cases, it will be observed that the elections were annual. Hence there was wanting in the constitution of the committee the element of permanency so essential to its usefulness. Oftentimes the entire committee would be changed in a single year. Hence important changes requiring time to complete them could not be entered upon; reforms could not be perfected; the benefits of experience were lost, and there could be but little unity of purpose in the action of the committee.

This defect, however, remained till the year 1857, when the law was changed so as to fix the number at three or a multiple of three, “one-third thereof to be elected annually, and to continue in office three years.” This was a decided step in advance, and from that time to the present the supervision of our schools has been constantly improving in quality and power.

Meanwhile a new demand was arising. Experience showed, that a more constant and thorough as well as skilful supervision was needed, than, in the majority of cases, could be expected from the school committees alone. These were necessarily composed largely of gentlemen deeply engaged in active life, and could not, however well-disposed and competent they might be, bestow upon the schools that continuous care and attention which are essential to secure their highest usefulness.

Perhaps no better provision than this could be devised for the successful management and supervision of the schools in this Commonwealth, and certainly none better adapted to the genius



and habits of our people. There is first a committee of intelligent citizens in each city and town, chosen by a popular vote, and happily in most instances without reference to political opinions, familiar with the opinions and wants of the people and directly responsible to them, clothed with ample powers and charged with the duty of conducting the Public Schools. And then there is, whenever the people so choose, a Superintendent, selected by the committee, acting as their agent, reporting to them, and receiving counsel and advice from them in all cases of doubt and difficulty.

Here, as in every other vocation, success will chiefly depend upon the skilful selection of agents. If the people carelessly or wilfully fail to make choice of an intelligent and competent committee; and more especially if the committee intrust their delicate and responsible duties to unskilled hands—their schools will not fail to suffer.

What then are the qualifications of a good Superintendent ?

Obviously, in the first place and always, there must be a large share of strong native common sense. There must be a thorough education, a broad and liberal culture and careful discipline of the mental and moral powers. And then he must have a just and definite idea of the true end of public instruction; be familiar with the every-day work of the school-room, with the most approved methods of teaching and training, of organization and discipline. He must have a quick eye to detect excellences and defects, and a ready voice to give counsel and encouragement or kind reproof—and withal such a demeanor of mingled gentleness and firmness, of energy and patience as shall command the respect and win the confidence of pupils and teachers alike.

But on this and kindred topics relating to this subject I do not propose to enlarge. It is known to many that Mr. Northrop has for several years given to those topics no small amount of attention and thought. His views have been repeatedly given to the public and received with favor. It has seemed to me eminently fitting, therefore, to ask him for a brief expression of the opinions which his observation and experience have led him to form, as a closing contribution to the cause of public education here, whose interests he has served so faithfully and well. In answer to my request he has furnished the following communication, which I take pleasure in appending to the foregoing statements :—

Hon. J. WHITE :

My Dear Sir,—I am glad to learn that you propose to call attention in your forthcoming Report, to the importance of employing Superintendents of Schools in all our cities and large towns. Such a discussion is timely. The plan is no longer an experiment. The theory at first was plausible, but now facts many and strong, prove the wisdom of the measure and call for still greater progress in this direction. In accordance with your request I cheerfully give my views on this subject, some of which have been set forth on other occasions, and all of them formed from a careful consideration of the methods and results which have come frequently under my observation. Schools differ in nothing more than in the skill, thoroughness and efficiency of their supervision. This one agency is the most common cause of other differences. The marked contrast noticed in the schools of towns and cities contiguous, or similarly situated, has often forced this subject upon my attention. The schools themselves tell the practiced observer the style of this supervision, as readily as a house shows the taste of its architect.

The magnitude of the interests involved, pecuniary, physical, intellectual and moral, the great progress recently made in the science and art of teaching, the marked success of skilful object teaching, the glaring defects still remaining even in our cities, the improvements needed and the happy results accomplished by this agency where it has had a fair trial, all prove the necessity of maintaining a Superintendent who shall devote his whole time to the care and improvement of the schools.

The duties of the office are difficult as well as most important. A failure will surely come from clumsy hands. Great care should therefore be taken in the selection of the incumbent, especially in the initiation of the system. A mistake here has more than once spoiled the experiment, if not marred the schools. In addition to liberal culture and practical familiarity with the school-room and school studies, high and low, he must have sound judgment, a knowledge of human nature and especially of the juvenile mind, love of children, and tact and facility in addressing and controlling them. He should observe the methods adopted in the most successful schools anywhere to be found, and keep pace with the general progress of education. Thus as he takes a comprehensive view of the system practised at home, he can compare it with others of the highest standing which he has examined abroad. Surely this work is important enough to enlist all the energies of the ablest mind. The most exalted talents, enriched by all the treasures of learning and science can here find ample employment for all their resources. Its great and responsible duties should become the sole and all-absorbing business of the incumbent who is worthy to magnify the office.

A consideration of the duties of a Superintendent in detail, will serve to show the importance of the office.

I. A Superintendent has peculiar facilities to advance public sentiment and awaken popular interest in behalf of education. The character of the schools in each town and city answers to local public opinion. You elevate public sentiment by improving the schools, no more surely than you improve the schools by elevating public opinion. They reciprocally influence each other. Popular ignorance, or indifference even, will cripple the best educational system. Improvements in our schools cannot keep very far in advance of public opinion. While advocating progress, I still admire that conservative element of the New England character, which closely scrutinizes and cautiously welcomes innovations upon established usages. If our people are slow to move, they move strong and in earnest when once roused and resolved. The progress thus secured is more permanent and substantial than the rapid advancement sometimes prompted by an undue thirst for novelties. Once convince such men, that education is the great interest for which "every one's hearthstone cries out in his ears," and you soon find an active interest where you feared a settled apathy, and a growing liberality in the room of seeming indifference.

Our late war has taught the masses, as nothing has ever done before, the value and necessity of public instruction, and laid the foundation for greater progress. The war proved a great school for the nation. It has wonderfully educated and elevated the public mind. Events which stir the soul always educate. There never has been a day in the whole history of our country when the friends of popular education could work so hopefully as now. We have entered upon a new era in education as truly as in our political history. The recent establishment of a National Bureau of Education is only one of many signs of the higher and more general appreciation of Education. In these times, better than ever before, may an efficient Superintendent of Schools hope to elevate public sentiment in behalf of learning, by direct personal influence with individuals, by public addresses, or with his pen through the daily journals, and in his Annual Report. In these various ways he can do much to enlist the sympathies and coöperation of parents and the public at large in favor of wise improvements in schools.

II. Much of a Superintendent's work relates directly to the School Committee. Although their permanency has been increased by legislative enactment, the School Board still changes too frequently. It requires one or two years to initiate new men in the details of their work. It is no slight matter suitably to review the Common School studies, and to discover the practical working of the whole system, based on a knowledge of the special characteristics of each school in the town or city, and the

comparative progress of all; the excellences and defects of individual teachers with their respective theories and methods.

The faithful performance of this work is frequently too burdensome for men engaged in the active pursuits of life, or for those who are wholly absorbed in their profession, with no practical knowledge of didactics, who have never investigated the theory and art of teaching or even regarded education as a science. The office is perhaps accepted with reluctance, and in concession to the persuasions of friends, and its duties always held subordinate to the calls of their chosen and regular vocation. The reports of committees often assign the pressure of professional or private engagements as their excuse for the acknowledged neglect of this duty. A single sentence will illustrate the spirit of many. Says one of these reports: "A vast amount of necessary work must be done by somebody, the whole of which never has been and never can be done by the members of this Board without sacrifices and exertions too great for the public to demand." Now a Superintendent, familiar with every teacher and school, and knowing something of every class, and also the accommodations and adaptations of each school building and room, the repairs and changes needed for ventilation and heating, the demand for school apparatus, furniture, or reference-books, can supply to this changing Board the facts and suggestions necessary to aid their deliberations and decisions. In this way the influence of the Board itself is increased, and their plans are characterized by more unity, efficiency, and permanence.

It is a well-known fact that the success of the great manufacturing corporations to which a large share of the prosperity of New England is due, is owing to the system of thorough and skilful supervision which pervades the whole. Although every operative knows well his place and duty, yet an overseer stands like the teacher in every room to see that each subordinate does his work faithfully and well, and *over all* alike, the overseer and the hands, is the *Superintendent*, as it should be in our schools, upon whose executive ability and skill the success of the whole concern largely depends. To command the highest business talent in these important posts, very liberal salaries are given. The owners would deem it poor economy to save this salary by dividing these duties among a board of seven, nine or twelve directors, to be performed at random, as their inclinations or other engagements might permit. Such services would be dear even if gratuitous, and dearer still when the several charges equal if not surpass the salary of a Superintendent. How long would the bills of any bank pass current if the duties of cashier and president were equally distributed among twelve directors? The experience of bankers, manufacturers, insurance companies, and all large joint stock corporations, long since demonstrated the wisdom of devolving the chief oversight upon one head. A division of responsibilities among a large number of trustees

usually diminishes their efficiency very much in proportion to the number. If each has a less share of work, so also of the honor of success or the blame of neglect and failure. Hence in all committees, societies, and associations, commercial, financial, mercantile or manufacturing, literary, religious or benevolent, one man is usually held responsible for the work and results.

What other great expenditure of money is so little economized by personal supervision as that of schools. In some instances within my knowledge the appointment of a Superintendent has secured an evident and admitted *saving of money*, by an improved system of school expenditures, to an extent exceeding the salary paid that officer. So far as my observation extends, the general fact has been increased economy as well as efficiency in the whole school administration.

The strongest incentives will stimulate a man, worthy of the place, to put forth his utmost endeavors for the improvement of the schools. Not to speak here of the higher and more obvious motives to zeal and fidelity, the sacredness of the work, and its rare opportunities for usefulness, he knows that all eyes are fixed upon him, and that an intelligent public will scrutinize all parts of his work, because it concerns every household. He is to be held in some measure responsible for the condition of every school. His neglect or inefficiency cannot escape detection. His mistakes, like those of the commander of an army, will cause sorrow, if not draw censure, from many hearts and homes, needlessly made desolate. His reputation and position depend upon the manifest progress and success of the schools.

III. An important part of a Superintendent's work is with the teachers. He is officially their friend and confidential adviser, to whom they may freely state their trials and difficulties, their points of conscious weakness or strength, and from whom they may receive judicious and timely counsel. The Superintendent may also speak freely to the teachers of the errors and defects he has observed in them or their work, provided these unwelcome disclosures are presented in a truly kind and friendly spirit. The teacher, isolated and unvisited, often longs to see himself as others see him, and would gratefully accept a suggestion alike of his mistakes and their remedies.

While none should be a copyist, but each seek to be himself, yet, where individual traits crop out with offensive prominence, friendly suggestions may be of great value. The Superintendent's authority and responsibility will sanction something of the freedom of a parental supervision, if only softened and recommended by as much of parental sympathy.

Teachers need encouragement as well as criticism and counsel. When difficulties in the school dishearten; when misrepresentations, or groundless opposition, or prejudice outside,—originating in local jealousies, or

some old neighborhood quarrels,—are emboldening insubordination, or fostering indifference in the schools, or withholding sympathy and support from without, how welcome then is the advice of a wise Superintendent. He may save an efficient teacher and benefit the school by convincing the community that these embarrassments originate among the parents and that the remedy is with themselves.

In difficult cases of discipline, also, his advice is often of great service. By anticipating and forestalling evil, he may often show how much better is prevention than cure. For the benefit of teachers, a Superintendent may do much by quarterly, monthly, or more frequent meetings, where are discussed the topics suggested by his own recent observations, the experience of individual teachers, or the exigencies of particular schools. In such practical and *home questions*, all feel a deep personal interest.

The utmost freedom is invited on the part of the teachers in throwing out such hints and facts as their experience may suggest; recent difficulties and the expedients adopted to meet them, are described. The Superintendent closes by giving the results of his maturer views and wider observations.

Sometimes a class of children is invited to be present with whom one of the teachers, or the Superintendent, gives a model lesson, which after the class retires is freely criticized by all present.

Having often participated in these meetings, I can bear testimony to their interest and usefulness in awakening professional enthusiasm and increasing the resources of teachers.

IV. The chief field of a Superintendent's labors is with the schools themselves. All these he visits frequently, and his visits are longer and more systematic, and his questions to the several classes are more searching than those of the school committee can well be. In our cities their visits are often too brief and irregular to discover fully the real characteristics of the teachers or the pupils.

The frequent examinations of schools by a judicious educator is one of the surest methods of improving the teacher and scholars, giving alike to both, direction, counsel and encouragement. The prospect of frequent inspection by the Superintendent is a constant stimulus at once to the teacher and pupils. Teachers will make it their aim to secure a thorough comprehension of the lessons, rather than a mere repetition of words and formal propositions; the scholars are led to study, not merely in order to say the lessons at a recitation a few minutes hence, but by reflection and reviews so thoroughly to master them, grasping *principles* as well as processes, as to be ready at any moment, and without warning to meet the more rigid scrutiny of the Superintendent. The examinations, whether of classes or schools, are better tests of scholarship and progress, when an expert performs the duty, who has not only been a teacher, but as a School

Visitor has observed methods both of learning and teaching under widely different circumstances.

Another advantage is a more intimate and reliable acquaintance with every school. After observing the excellences or deficiencies in each, he can without offence, and as a part of his duty, delicately suggest wiser methods, and throw out hints fitted to meet the perceived exigencies of the occasion, or, still better, give the several classes model lessons, or drills in the studies they are pursuing.

A Superintendent may accomplish great good by addressing schools. Not every speaker can interest or profit children. To be able to impress them is an art which requires tact, sensibility, sympathy with the juvenile mind, fertility and felicity of illustration, a keen eye to discover the exigency of the hour, and take advantage of passing events or exercises in the school-room. With what rapt attention do children always listen to one who can happily adapt both the themes and thoughts to the characteristics *here* and *now* observed. Advice, encouragement, or warning, manifestly suggested by the perceived "wants of our school to-day," will be likely to impress the heart and influence the life.

If teachers, committees, and superintendents will put themselves on the stand-point of children, so as to appreciate their tendencies, wants and even weaknesses, much good may be done, not only in public addresses, but by personal conversation with them as to their plays, habits, plans, studies and dangers. The most wayward child I have met in our schools has kindly received friendly counsel and faithful warning, even as to his errors and offences. Though unaccustomed to kindness, such boys are not insensible to its influence. The tones of sympathy may touch a chord that will vibrate the more sweetly because of its very strangeness.

Who can estimate the extent and value of the healthful, moral and mental impulses and impressions given to youth by a Superintendent who is skilful in addressing them, and who is wholly and heartily devoted to their improvement.

The results which have come under my observation confirm the arguments already presented. No one conversant with the past and present condition of the schools where both systems have been fairly tried can in my judgment, question the utility, not to say the necessity of the office.

It will be asked, what is the testimony of experience on this subject? The results of the two systems furnish the most decisive test of their comparative value. Evidence might be drawn from almost any of the places now employing a Superintendent of Schools. I will refer to but one. Some three years ago I addressed the friends of education in Springfield for an hour in favor of employing a Superintendent of Schools. The school committee had long and earnestly advocated the same measure. Their efforts and mine seemed in vain. But in reward for their persist-

ence, in January, 1865, such an officer was appointed. Before he entered upon his new duties, I visited nearly all the schools of the city. The aspect of many of them was most forbidding. The first and chief trouble was found in the meagreness of the accommodations. I have never witnessed the over-crowding of unsuitable rooms to such an extent. I had often seen, here and there, poor school-houses uncomfortably crowded, but had never found a system of packing so universally and unmercifully carried out. The school committee had deplored the evil and implored relief, but the needful means and the power were denied them. Not only were the school-rooms too full, but schools were "kept" (to be "taught" was out of the question,) in cellars, attics, ante-rooms and clothes-rooms, rooms damp or small, low, ill-seated and worse ventilated.

I have recently visited again the schools of Springfield, devoting one entire day and a part of a second to this duty. During these two years I find evidence of the most striking and remarkable progress I have ever observed in the schools of any city within the same brief period. I concur fully in the strong language of the honored chairman of the school committee: "The improvement in our schools for the last two years is truly wonderful." For two years a competent and faithful Superintendent has been devoting his whole energies to the improvement of these schools. These changes it is true are not due to the influence of any one man. Other causes have conspired to the same result. The time of beginning his service was favorable. The Superintendent has been sustained by the school committee. The mayor, a liberal city government and efficient building committee have cordially co-operated with him. But all these parties have wisely recognized the Superintendent as their leader, and around him they have rallied, and as the result an advance has been made in many points.

1. In improved school accommodations. Two noble Grammar School-houses, models of their kind, have recently been completed and supplied with the most approved furniture, and the walls above the blackboards adorned with appropriate engravings. Other buildings, especially that for the High School, have been remodelled and supplied with new desks and apparatus.

2. The High School itself has been reorganized on a liberal plan with the most ample provision for a classical department and a preparatory classical department. Springfield may now justly claim one of the best High Schools in the State. Under the old system, it was impossible to secure the results now attained here. But with its enlarged plan, and extended course of study, and thorough system of instruction, it is well fitted to meet the wants of all classes, furnishing advantages manifestly superior to those given in Private Schools, however expensive they may be. The citizens of Springfield are already adopting the sentiment of



Edward Everett, "I cannot afford to send my children to a Private School because the Public Schools are unquestionably superior."

3. Great improvement in the Grammar Schools, especially those in the new buildings, in relation to order, system, and the studiousness and progress of the pupils.

4. In a remarkable increase of attendance at school, drawn largely from "the street" school and from Private Schools.

5. In the increase of the number of teachers. Two years ago there were 68, now there are 85 teachers in these schools.

6. In the increased liberality of the people and of the city government, in behalf of schools. Popular sentiment evidently sanctions the liberal expenditures made by the city authorities for this cause.

7. In better provisions in the Primary Schools for the comfort, health and instruction of the pupils, and in improved methods of teaching.

8. In a general improvement in the writing of the pupils.

9. In the diminution of truancy and in the new and very interesting schools for the instruction and reformation of truants. The plan suggested by the Superintendent after visiting other cities and comparing various methods is at once simple, economical and effective. I have not space for the details of the plan. The school committee say "the new arrangement is exerting a most salutary influence in promoting a more regular attendance in *all our schools*, and greatly diminishing the class of vagrant children in our streets." Might not this "Reform School" be so enlarged as to open its advantages for such offenders from any town of Hampden County? Truancy is the fruitful source of juvenile crime. This great evil calls loudly for a remedy in other parts of the county. If the officials of other towns and cities will follow the example of the mayor of Springfield in his personal interest as well as official labors for the reformation of juvenile offenders, the most effective remedy will be at once applied.

Very truly yours,

B. G. NORTHBOP.

It only remains to notice the extent to which the system of superintendence, so favorably spoken of, prevails. The office is established in nearly all the cities of the Commonwealth, to wit: in Boston, Salem, Lawrence, Charlestown, Lowell, Worcester, Springfield, Fall River, New Bedford; and in others the matter is now under discussion. Superintendents are also employed in many of the towns. The number at the present time is believed to be not far from forty; and it is constantly increasing, and will, I doubt not, continue to increase, as the favorable results become more widely known. Nor will the benefits be necessarily confined to the larger towns. By committing the active duties of the

school committee to a single member, who has the requisite qualifications, any town can avail itself substantially of the advantages arising from the employment of a Superintendent. In not a few instances this is now done with manifest advantage.

But whatever the method,—whether by the agency of a single person, by a school committee, or by both combined—the end to be kept steadily in view is such a careful, and thorough “watch and ward” of our Public Schools, as shall make them in the largest possible degree, the fountains of sound learning and of pure morals. And to vast numbers these are the only fountains. In the Public Schools or not at all, are they to learn the great lessons of life and duty. Here or nowhere, are they to be fitted for the high trusts of manhood. It is when viewed in their relations to such results, that the subjects of which I have spoken assume large proportions. They point to the true sources of our strength,—they show us the well-springs of our national life. To the cultivated and benevolent, desirous of usefulness in an unostentatious way, I know of no more inviting field than this, none which promises richer returns for honest toil. Whoever shall devote his powers to the quiet work of building up the free schools of his village or town, will not labor in vain. His noiseless footsteps may not attract the gaze of the busy world; the story of his life may not be written in brass or marble. But the ear of the child shall bless him and his eye give him witness; and the coming age, made wiser and better by his labors, shall be his speaking record. The examples of such labor and such success are not wanting. On a cheerless and stormy winter’s day of the last year, it was my sad office to look into the coffin of one, whose life was a shining instance of what I am saying. For twenty years, as the chairman of the school committee, he had labored with an untiring zeal in the interests of popular education. Burdened with the duties of an exacting and honorable profession, he found time to expend the wealth of a cultivated intellect and a rich experience on the Public Schools. But now, cut off in the maturity of his powers and in the mid-career of his useful labors, his fellow-citizens of every rank, from the homes of the poor and the homes of wealth, from the seats of science and the marts of trade, had gathered for his burial. But they did not come alone. Long ranks of teachers and pupils from the schools which he had loved and cherished so well, were also there to look for the

last time upon the face of their benefactor and friend. He "sleeps with the fathers ;" but he is not forgotten. Thousands of happy youth—made the happier by his toils—will cherish his memory and copy his example. Whatever memorial shall mark his resting place, the true, the enduring monument of HENRY BIGELOW will be the PUBLIC SCHOOLS OF NEWTON.

JOSEPH WHITE.

BOSTON, January, 1867.

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ABSTRACT

OF

SCHOOL COMMITTEES' REPORTS.

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# ABSTRACTS.

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## SUFFOLK COUNTY.

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### BOSTON.

*Educational Idea of our System.*—It is not enough that we have school-houses furnished and warmed, and whose halls echo with the prattle of school duties. When our ancestors planted the school by the side of the church, it was not merely the organization they meant, in either case. They bound them together in obedience to a lofty principle and bequeathed to us the legacy of their thought. The church, indeed, had acquired a significance that was well known, not only here on the narrow margins of the forest, but as well in the midst of time-worn institutions and ideas in the old world, by the sturdy independence, the firm will, the vigorous intelligence, and the keen sagacity with which it had evolved, enthroned, and defended new ideas of humanity, government, civil freedom, and religious truth; with which it set into the organisms of existing states and religions that diamond truth, flashing with the primal thought of the man, alone, before his God, before the law, in the presence of life, and in contest with knowledge,—the man, the central, normal unit, for whom was government, religion, society. So, in the establishment of the school, it was such an institution as should draw out the mind of the child in all the approaches to manhood; so that it should have power, from its own stand-point, to consider and discuss every theory of error or of truth,—ability to comprehend and rightfully measure its discoveries and condense them into well-balanced judgments,—forecast to see the future influence and dominion of its adjudicated truths,—and stability and moral purpose to stand by its convictions to their final triumph in the individual and the municipal life. To this end they required in those who would teach, the highest gifts of nature, the broadest culture of the schools, and the most perfected graces of the heart, and the schoolmaster, like the minister, was a man of reverence, a shining light, a moulding social power,—

— “he had the look  
And air of one who wisely schemed,  
And hostage from the future took  
In trained thought and lore of book.  
Large brained, clear-eyed,—of such as he  
Shall Freedom's young apostles be,  
Who following in War's bloody trail  
Shall every lingering wrong assail;—  
All chains from limb and spirit strike.”

In the light and warmth of this binary idea of the church and school, society developed rapidly, solidly, with intellectual poise, with vital keenness, with dominant purpose. Each member of the community grew into sovereignty. The bond of union became fraternal equality, and in the equilibrium of these two forces social influences became lightsome, pervasive, invincible. And it required but little more than one hundred and fifty years for such educators, at work upon such principles of culture, to have wrought out a stability of social condition, a heroism of individual will, and a strength of economical philosophy, that not only enunciated to the most enlightened government, at that time, of the world, the laws of political righteousness and wisdom, but with a baptism of blood successfully consecrated these laws as the foundation of a new and independent nation.

Nor this only. Minds and hearts thus educated were found to have developed other qualities of character that had been supposed to belong almost exclusively to the privileged and dominant classes of society,—ambition for achievement,—tirelessness in exploit,—taste for civilizing refinement,—the impulse to embody ideas in material outlines, in scientific formulas, in artistic melody, canvas, and marble, or in the compact, thoughtful page. Every man became an affirmative centre of influence for the opening and enlarging of the avenues of social and industrial life; a seed-bearer, the pollen from whose flower-cup, blown by the winds of a ceaseless activity, fructified in all the surrounding fields of humanity. Enterprise and conquest were thus inaugurated, and the thought so divinely introduced on the “broidered borders of the land,” has spread up its magnificent rivers, centralized about its oceanic lakes, and blossomed in wavy fields and spire-tipped cities over its gigantic prairies, so that not only throughout the Northern States, but in the virgin States of the Pacific, with the first chip-pings from the axe and the first sod-turnings of the plough, have the church and school reappeared, till the educational spirit and vigor of the Atlantic bays have spread over mountain and plain from coast to coast, and holds invisible and irrevocable sway over all the thoughts, the acts, and the prophecies of men. Indeed the secret of the life and character of that portion of our country known as the Free States is to be found in this educational idea and practice. They have not, however, prevailed over the entire

land; a different, and in many respects, antagonistic theory and practice have elsewhere had control. For nearly three centuries, both grew up side by side, developed their respective fruitage, advanced into the imperishable annals of history, were transfigured before the eyes of men in municipal being and governmental institutions, as well as in the very social structures of their respective communities, until in their progressing hostility they grappled in mortal conflict, the first great civil struggle of our beloved country, and of all the civil or international struggles of the world, the greatest in *matériel* and equipment, the proudest in strategy and valor, and the most momentous for the rising interests of humanity.

To the contemplative mind, estimating this conflict in the lines of its controlling causes, there never has been a moment when a reasonable doubt could be entertained as to the side to which victory must ultimately incline. The stalwart vigor, self-reliance, and elastic fertility of the educated mind, comprehend all methods, concentrate all appliances, reduce all material resources to its service, open the hidden powers of nature, sway the sympathies of heart, guide the products of the brain, and so solidify the advancing phalanx of the free forces, that resistance of the inferior powers becomes vain. Besides, God is in the way of the culture of man by free and full education, and the organic supports of His pleasure make intelligent, courageous truth to be invincible.

It was feared that education had begotten cowardice, it has been found that, forbidding passion, it has given equable persistency; it was feared that education had created weakness, it has been found to have given strength; it was feared that education had developed such love of study, thought, and luxurious ease as would fail in any conflict of arms; it has been found that its wisdom has been the husbanding of strength, the judicious guidance of force, the wise protection of life and power. There has been no period without persons entertaining the delusion, that knowledge and education are to be considered the source of all evils. We have not ourselves been left of those who, with Rousseau, have "maintained that virtue had departed in proportion as the sun of enlightenment had risen above the horizon, and that with philosophers and artists luxury and vices had come in; the sciences and arts growing out of vices,—astronomy, from superstition,—eloquence, from ambition, hatred, or flattery,—geometry, from avarice,—physics, from curiosity,—morals, from pride,—that these have enticed the human race out of their happy, natural condition, and betrayed them into the depths of their present misery." But, not to stay to show how these distorted views all arise from a misuse of the sciences and arts, or from a misconception of their use, we have only to add that all the fears that have hung as theories and prophecies of evil over the school-house for so many years, all the philosophizings of aristocratic labor that free schools are the natural causes of infidelity and treasons and the nurse-



ries of lunacy, have been now triumphantly refuted, and the olden thought of the Fathers has come back to us from the great arena of its trial, not only strengthened, but crowned with the bays of honor. We can repeat, in the words of the First Bonaparte, that "the true victories, the only ones which we need never lament, are those won over the dominions of ignorance." Every member of our community, as by a common impulse, feels himself stimulated to more thorough devotion to this foundation-work of educating by free schools all the children of the Commonwealth.

*Instructors.*—This branch of the public service is under the administration of six hundred and five instructors, all in the permanent employ of the city, of whom five hundred and eighty-three are stated teachers of classes, and twenty-two teachers of special subjects, viz.: ten of sewing, five of music, two in the training department of the Girls' High and Normal School, two of vocal gymnastics and military drill, one of drawing, and one of each the French and German languages. While these teachers, in respect of practical skill and literary attainments, have all obtained the approbation of their respective sub-committees, and the final confirmation of the whole board, it is, perhaps too much to say that they are all first-class teachers, or even that they have every one exhibited such results of their labors as come up to the standard of an acceptable teacher. In the nature of things it is impossible it should not be otherwise. Exemplary skill in any art or profession, seldom comes as a sudden and full-grown power, but as the result of long and protracted labors, and the teacher's art is no exception. Diversities of gifts and of acquisitions are, therefore, to be expected. The former no training will eradicate or conceal, nor is it in the least desirable that it should. The idiosyncracies of real genius are not to be shunned, but the rather solicited as an importation into the teacher's corps of so much original, new, vitalizing power. The brilliant light of one sun, revolving in an orbit sufficiently near, is adequate to the fertilization and beauty of a world; it makes each hill-top glorious with its floral crown, and the pulses of animal life to beat with songful rhythm. So the influence of one teacher, inspired by some new thought or method of intrinsic value, permeates, enlivens, and gives efficacy to every teacher in his association, and so magnifies the graces and the powers, and accelerates the progress of every scholar. In Levana it is said, "Every intellectual peculiarity, be it mathematical, artistic, philosophical, is a beating heart, which all teaching and gifts only serve as conducting veins to fill with material for working and motion." The board has reason to congratulate itself that so large a number of the teachers in its employ, as well by the gifts of nature as by the treasures of studious toil, and now by the added wisdom of experience, may be justly ranked among the lights of their profession. Most of its masters are men, in the first instance, of liberal education, men of success as scholars; others were made by nature for teachers.

All seem conscientiously to conceive of their mission, and to be faithfully devoted to its high performance.

By far the greater portion of the teaching in our school is done by woman ;—there being five hundred and thirty-eight female teachers out of the five hundred and eighty-three regular teachers, and twelve out of the twenty-two special teachers,—in all five hundred and fifty to fifty-five males. By our system thus, the sensitive, susceptible, quick-responsive nature of woman is brought to the control and guidance of all the earlier stages of our school progress ; the tender, timid spirit of the child meets, therefore, all the gentleness of woman's love, the fertility of woman's invention, the patience of woman's long-suffering, the hope of woman's faith, and the courage of woman's confidence ; and these gifts of Providence are, as far as possible, transferred from the home to the school-room, and the school in some reasonable degree is made to reproduce the simple, natural culture of the family. Nor is this the theory only of our system, but the living, effective test by which the actual excellence of any school is to be measured,—by whose application each teacher may discover in these regards the degree of her success or her failure. We have done well in thus avoiding what Richter said he dreaded,—“that grown-up, hairy hand and fist, which knocks on the tender, fructifying dust of childhood's blossoms, and shakes a color off, first here and then there, until the proper, many-marked carnation comes to be found.”

In the selection of these teachers, it is evident, from the reports of various sub-committees, less care and caution have been exercised than in the selection of male teachers. Friendship has had its forfeit ; sympathy has demanded its sacrifice ; importunity has wrung out favoring judgments ; and the careless, thoughtless, mischievous belief that any kindly person was adequate to teach the abcedarian has found its victims. Society must have approached much nearer its millennial glory than it has, when these things shall not, must not, be so. But they are to be jealously guarded against, and the members of the board cannot too often call to memory the old saying, that in the bending of the twig you give direction to the tree. The hand that guides the first gatherings of the rivulet upon the mountain summit, may then and there direct whether that stream, augmenting volume and momentum as it advances, shall plough the continent with waves of violence like the loosening torrents of winter, or with meandering flow shall crown its banks with cities, and bear upon its equable bosom the fleets of a nation's commerce. The day of entrance upon the Public School is the pivotal day of the child's life,—all other days hinge upon it. She who here starts the young mind on its career of endless gathering, may, perhaps, be permitted to determine whether it shall surge with tumultuous passions, or pass to its immortal life in tides of peace and usefulness. Wisely to discharge this office is the work of deep design, of trembling care,

of trustful gentleness. The work is full of immensity, and it should inspire each committee in the selection of their teachers, to secure the best possible, at the expense of every sacrifice, and also with courage to supersede every teacher who, by education or other defect, shall fall below the grandeur of the calling.

In this corps of our teachers, the board are possessed of treasures untold; of devotion to duty that absorbs the life; of abilities that are regal; of fidelity as absolute as human nature will permit; of achievement that approaches perfect success; of ambition for duty, for good, for wisdom, ample as the field itself.

*Gymnastics and Military Drill.*—Three new departments of instruction have been opened during the year, or, more accurately speaking, two subjects heretofore taught in the Public Schools have been experimentally committed to the special charge of three teachers. The subject of physical gymnastics has been extended so as to embrace vocal gymnastics and military drill. The latter, under the charge of a gentleman conversant practically with the subject by service in the army, and as instructor in the Infantry Department of the Massachusetts Rifle Club, was introduced with the boys of the Latin and English High School, and those of the Everett and Eliot from the Grammar Schools. The experiment was attended with many difficulties and inconveniences. Views somewhat at variance respecting the utility and practicability of this drill were expressed by the masters of these schools; and the subject having met with strenuous opposition in the board of school committee was finally referred to the standing committee on gymnastics. The result of their observation and experiments will, doubtless, be returned in season for the report of the succeeding year.

The subject of physical gymnastics was made to include vocal gymnastics, of which the committee say :—

“Perhaps a word of explanation may be necessary in regard to the phrase ‘vocal’ gymnastics. The expansion of the chest and the proper development of the lungs are of obvious importance in any system designed to secure physical development. Proper exercises of the vocal organs are necessary in combination with general muscular exercises for this purpose, while they tend very much to advance the musical capacity of the pupil and to improve his capacity for reading and speaking, the latter a branch of education insufficiently provided for in most schools. To such exercises the term ‘vocal’ gymnastics is here applied; and, since they ought to be included in any proper system, it is rather to call attention to them than to enlarge the field of instruction that they are mentioned.”

An accomplished gymnast and professor of elocution was employed by the committee to take charge of this matter, and to give instruction to such pupils, with their teachers, as might be selected, and generally to unify the practice in this branch throughout the schools. The experiment has proved so successful, and so apparently useful, that its extension will probably be

called for, and the employment of the teacher as a permanent member of the instructing corps, at an adequate salary, secured.

*Music in Primary Schools.*—The third subject was the formal introduction of scientific musical instruction into the Primary Schools. Indeed the beginning of this sphere of instruction at this time was, perhaps, due to what were believed to be the peculiar qualifications of a gentleman who had given, in some of our schools, practical illustration of his talent, more than to any other cause. In theory, therefore, the matter was launched into full operation. For many years music had been popularly taught in the Primary Schools, with refining and beautiful effects. The melodies of the street, and even of the classic operas had been in most, and, we think, all of these schools, caught and domesticated in words of moral and educational health, and during the exercises of the day intervened as recreation, as discipline, as culture. The higher humanities of teacher and pupil blended and came to one in these interspersions of song, with the happiest results. It was now to be taught as a science, and the corner-stone of musical education was laid with these younger scholars of the city. The necessity of developing means and methods, and providing musical tablets charts, and other requisite apparatus, has very greatly hindered the success of the effort; but, notwithstanding all these difficulties, the committee on music, in their last report, say this teacher “devotes the whole of his time during school hours to this specialty, giving personally, such instruction as he can to the pupils, and demonstrating at the same time his plan and method of instruction to the teachers, who have thus, in many instances, becomes qualified, in a short space of time, to carry on his system successfully. And thus, as rapidly as possible, he is extending the benefits of such instruction throughout the whole Primary Department in accordance with the original intention of the order to which we have referred. Although it is now only about a year since he began his work in the Primary Schools, he had, up to this time [September,] established his system of instruction in 185 out of 250 schools of the department;” and the committee add, “we believe the unanimous testimony of all the teachers in the Primary Schools where he has had opportunity to carry out his plan of instruction is, that its influence is most happy and beneficial. In no instance, indeed, so far as we have learned, would the advantages thus produced upon the general discipline of the schools be willingly given up.”

*School Discipline.*—Disagreeable rumors of irregularities in the discipline of some schools, and of a resort to unusual methods of corporal punishment in others, gave occasion for the appointment of a special committee to examine into the general subject of school discipline. This duty was discharged with great fidelity, statistics carefully collected, and a considerable departure from the spirit of the rules discovered, in a few cases invoking direct censure. The committee, in their report, say:—

"We are unanimous in our opinion that, where the least corporal punishment was used, there the best discipline was observed. Where the discipline was of a mild and conciliatory character, calculated to beget reciprocal influences between the teacher and scholar, the interest awakened in study and good behavior seemed developed and strengthened, and the very countenances of the scholars, on entering the room, showed their love of the place. On the contrary, in those schools where a great amount of corporal punishment was used, there was a forced attention to study, a sort of criminal look to the scholars, and everything betokened a frigidity of action, a want of that mutual sympathy which is the very breadth of school life,—a look of fear which seemed to denote distrust, embarrassment, confusion of thought and almost moral cowardice, appearing to induce an unhealthy development of disposition and character, unlike the dignity of a genuine moral and kindly influence."

In regard to girls' schools, the same committee express the opinion that corporal punishment should never be used, and find their justification in the very gratifying fact that "in two of the best girls' schools in our city, corporal punishment is not used, nor allowed on any condition." It is to be regretted that their attention was not called to what has become in some measure a substitute for the birch and the ferule, the effort to insure order, punctuality, and study by giving "checks" and "misdemeanors." This evil there is reason to believe has grown to alarming dimensions, and it is surprising that any intelligent, discriminating teacher could have been beguiled into its adoption. It is an inequable method of discipline. It makes no distinction between moral obliquities and accidents. It appeals neither to reason, nor to the affections, but only to the basest and most venial motives. It neither subdues, nor convinces, but simply enforces. It neither guides nor allures, but fetters. It has none of the virtues of the old historic birch. That inflicted but physical pain; this wounds the spirit. That was a conflict of a moment, in which the victory was of an authority asserted and maintained; this is a continuing conflict irritating the spirit and growing into moral gangrene. That was a manly hearing and defence, an open discussion of a defined issue; this a one-sided edict of condemnation. That was a punishment inflicted and ended; this is a punishment not only inflicted, but continued to modify the rank and standing and reputation of the scholar for the entire course of his education. That was demonstrative, patent, easily cognizable in its utmost extent; this is seductive, treacherous, by the frequency of its appliance and the bitterness of its effect eluding, or apt to elude, the vigilance of the most careful teacher,—better a thousandfold that the flesh should bear, for an hour or two, the wales of a rattan, than that the tissues of the young, tender, susceptible spirits, should be thus swollen with a sense of injury, mortification, and injustice.

The true discipline of the school-room is neither in the rod, nor in checks with loss of credits, but in the spiritual power of the teacher to enlist the

love of the pupil and to incite the desire of knowledge. Sir Roger Ascham was right in saying that the opinion of some "that children of nature love pastime, and mislike learning, because in their kind the one is easy and pleasant, the other hard and wearisome, is an opinion not so true as some men ween." For, says he—

"The matter lieth not so much in the disposition of them that be young, as in the order and manner of bringing up by them that be old; nor yet in the difference of learning and pastime. For, beat a child if he dance not well, and cherish him though he learn not well, ye shall have him unwilling to go to dance, and glad to go to his book; knock him always when he draweth his shaft ill, and favor him again though he fault at his book; ye shall have him very loth to be in the field, and very willing to go to school. Yea, I say more, and not of myself, but by the judgment of those, from whom few wise men will gladly dissent,—that, if ever the nature of man be given at any time, more than other, to receive goodness, it is in innocency of young years, before that experience of evil have taken root in him. For the pure, clear wit of a young child is like the newest wax, most able to receive the best and fairest printing: and like a new, bright, silver dish, never occupied, to receive and keep clean any good thing that is put into it."

And this truth he enforces with a most felicitous and pointed illustration. Before going into Germany he went to Leicestershire to take leave of his friend, the Lady Jane Grey. Her parents, the duke and duchess, with all the household, gentlemen and gentlewomen, were hunting in the park.

"I found her," he says, "in her chamber, reading *Phaedo* Platonis, in Greek, and that with as much delight as some gentlemen would read a merry tale in *Boccace*. After salutation and duty done, with some other talk, I asked her why she would lose such pastime in the park. Smiling, she answered me: 'I wist, all their sport in the park is but a shadow to the pleasure I found in Plato. Alas, good folk, they never felt what true pleasure meant.' And how came you, Madam, quoth I, to this deep knowledge of pleasure? and what did chiefly allure you unto it, seeing not many women, but very few men, have attained thereunto? 'I will tell you,' quoth she, 'and tell you a truth, which perchance ye will marvel at. One of the greatest benefits that ever God gave me, is, that he sent me so sharp and severe parents, and so gentle a schoolmaster. For, when I am in presence of either father or mother, whether I speak, keep silence, sit, stand, or go; eat, drink, be merry, or sad; be sewing, playing, dancing, or doing anything else, I must do it, as it were, in such weight, measure, and number, given so perfectly, as God made the world; or else I am so sharply taunted, so cruelly threatened, yea, presently sometimes with pinches, nips, and bobs, and other ways (which I will not name, for the honor I bear my parents,) so without measure misordered, that I think myself in hell, till time come that I must go to Mr. Elmer, who teacheth me so gently, so pleasantly, with such fair allurements to learning, that I think the time nothing, while I am with him. And when I am called from him, I fall on weeping, because whatsoever I do else but learning, is full of grief, trouble, fear, and whole misliking unto me. And thus my book has been so much my pleasure, and bringeth daily to me more pleasure and more, than in respect of it, all other pleasures in very deed be but trifles and troubles unto me.'"

The recommendation of the committee that it be made the duty of the several masters and teachers, at the close of each month, to make in writing to the chairman of the district committees, a report of all cases in which corporal punishment has been inflicted, stating the name of the pupil, the amount of punishment, and the reason for its infliction, and requiring such chairman, in his quarterly report to the board, to give the number of cases of corporal punishment during the previous quarter, and the average to each teacher of the district, was adopted. This regulation is reported to have had a very salutary effect, and to have resulted in benefits not anticipated in its adoption. Especially furnishing to each chairman an authentic and reliable record of all cases of discipline for his own guidance, the pacifying of parental alarms, and the safety of both teacher and pupil.

*Edward Everett.*—It only remains for us to remember the rich, rounded, golden fruitage of our schools, that during the past year, the angel-reapers have harvested, and through the "cloudy lutestrings of purple and gold" that tapestried the morning sky, have borne to the realms above.

On the 15th of January, 1865, Edward Everett, a graduate, in 1804, from the Common Schools of Boston, and, in 1806, from her English High School, with the honors of both,—a servant of the city, the Commonwealth, the nation, his race, in many an office of labor, of learning, of trust,—the national citizen, the orator, the scholar, the diplomat, the patriot,—after many sacrificial offerings of wisdom, of patriotism, of love,—with a mind still at unrest and active in the unfolding of the great truths of nature,—from a walk amid the mysteries of science and an intimacy of communion with the powers and the beauties of the natural world vouchsafed to but few of human kind,—with a gift and devotion of language that adorned everything of which it treated,—mature, honored of the nations, beloved at home and abroad, passed from "these veils of aching, fainting, dying flesh," to that diviner scholarship in the region beyond the realms of material things, of which he has so beautifully said, "after the bloom of the cheek has faded, after the wreath of fame has withered, after the taste of pleasure has palled, after nature, after time, after life, after death, we reach at last the pleasant land,

‘ Sweet fields beyond the rolling flood,’—

where the philosophy of the mind awaits, at the foot of the Cross, from a Wisdom higher than its own, the complete solution of its momentous problems."

Mr. Everett was not only himself a graduate and, so to speak, a product of our Public Schools, but was ever their advocate and patron; his own children were educated in them; he repeatedly commended the schools themselves, and the system on which they were founded, to the attention of strangers with admiring pride and fondness, "not as a separate interest



of a favored class, but as the most important concernment of the whole community, practically interwoven with its inmost life." He indorsed that traditional thought of New England, that "education, in the full comprehension of the idea, is the drawing-out, the training-up of the intellectual principle in man; the divine principle which makes man what he is."

The conceit that the education of our Public Schools is to be a feeding of the child's mind with natural facts, with mere knowledge, progressing only with his capacities to see and fully understand, and finally to be thence dismissed with all the information needful for the discharge of life's ordinary duties, had no fascinations for his deeper and experienced wisdom. The law of progress is daily exploding these present facts of science,—they undergo perpetual deteriorations by time and scientific advance, like the fabrics of fashion,—but, said he, "to train and strengthen by discipline the powers of the mind, in other words to give still greater force and wiser direction to those intellectual energies which have established man in this Western world, is the great object of institutions of education, from the humblest infant school, to the most advanced seminary of learning, of science, of art, of the professions,"—and instead of useful studies, he pleads for what he styles, "the noble inutility of generous studies,—rather let me call it," he says, "for the ineffable beauty, dignity, loveliness, and priceless worth of the meditations and exercises of the thoughtful, well-instructed mind, soaring on the wings of conscious,—nay, better of its *unconscious* powers and susceptibilities, far above the region of utilitarian appliances to the highest heaven of thought, imagination and taste." "There is," he continues, "that in the capacities of our minds, which is more than useful, and which deals with higher elements than those of material well-being. It is not appointed to man to live by bread alone, and

'The thirst that from the soul doth rise  
Demands a drink divine.'

There are facts in the great and wondrous universe, which it is delightful to trace, though we cannot as yet discern their relations to the service of man. \* \* \* Immeasurably above all the delights of sense is the serene rapture of meditation, the calm ecstasy of pure thought, sounding the depths of its own consciousness, and ruling all else which is subject to man, in the heavens above, and the earth beneath with the sovereign mastery of mind. Unspeakable are the attractions of patient enthusiastic science, now following the traces of creative wisdom along the minutest fibers of microscopic life, and now clinging to the folds of the streaming robe of Omnipotence as it floats over the transcendent galaxies of the highest heavens."

Unseduced by the speciousness of new theories, jealous of untried innovations, faithful to the wise experiences of the past, prophetic of the future common weal, let the school board of the city of Boston be ever found true



to the two ideas so often, so eloquently, so powerfully advocated by this eminent scholar, the development of the mental powers, and the thirst for meditative discovery.

*School Committee.*—EDWIN WRIGHT, GEORGE HAYWARD, LORING LOTHROP, ROBERT C. WATERSTON, JOHN A. LAMSON, EDWARD H. BRAINARD, ELISHA BASSETT.

In the programme of studies for the Primary Schools, provision is made for "oral lessons" in all the classes. The requirement respecting this description of instruction is as follows:—

"Sixth Class—Oral lessons on size, form and color, illustrated by objects in the school-room; also upon common plants and animals, illustrated by the objects themselves or by pictures.

"Fifth Class—Oral lessons on form, size and color, and on plants and animals; illustrated as above.

"Fourth Class—Oral lessons on objects as above, with their parts, qualities and uses.

"Third Class—Oral lessons as above, and upon common objects and the senses.

"Second Class—Oral lessons on objects, trades, and the most common phenomena of nature.

"First Class—Oral lessons on objects, trades and occupations, with exercise of observations by noting the properties and qualities of objects, comparing and classifying them, considering their uses, the countries from which they come, and their modes of production, preparation and fabrication."

It will be observed that the "oral lessons" thus provided for constitute a progressive course of object teaching, or lessons on objects, beginning with the exercise of the senses and the perceptive faculties, and rising, finally, to the exercise of the reasoning faculty, or sense of relation, as it has been called, in view of the nature of its earliest operations. No text-book has been prescribed for this branch of instruction, either for the use of teachers or pupils, and no specific amount of time is assigned to it, all the details of its management being left to the discretion of the teachers.

Oral instruction is by no means a recent invention; wise teachers have always used it to a greater or less extent. For some years past it has been gradually becoming more prominent in our Primary Schools. It is, however, only about three years since oral lessons on *objects* were recognized as an essential part of the instruction to be given in these schools, by the adoption of the programme from which the above abstract is taken. This is the period required for completing the Primary School course of training, and, therefore, the pupils now graduating ought to have enjoyed the benefits of the object teaching, provided for all the different classes. But the requirement in respect to this branch has not, as yet, been fully complied with. Perhaps the most that can be said in general is, that a beginning has been made in teaching the required oral lessons on objects.

There is reason to believe, however, that the agencies now in operation will greatly accelerate the progress in this direction. Of the agencies to which I refer, our excellent Training School is by far the most important. Here our Primary teachers may, at any time, see exercises in object teaching, conducted by teachers who understand thoroughly both its theory and practice. I do not mean by this that all teachers are expected to copy the object lessons given in this institution; but I will venture to affirm that no conscientious and intelligent teacher can witness the oral lessons on objects, as there given, without approving the general spirit of the method, and desiring to imitate it in her school. Thus, as a model object teaching school, always open for inspection, it is calculated to exert a powerful influence in favor of the general introduction of the system. And it will exert a still greater influence in the same direction through its trained graduates, who, I trust, will be appointed to fill many of the vacancies which are constantly occurring in our Primary Schools. Some have already been appointed. The first step has been taken, and the improvement which has been inaugurated will, I doubt not, be carried forward, gradually, but surely, until, at length, every school will be taught by a teacher who has been trained in the theory and practice of teaching not only oral lessons, but every branch of elementary education. But it will take time to bring about this desirable change. With my present views I should not recommend that a very considerable portion of the school time should be devoted to object teaching in its narrow sense, that is, as including special set lessons on objects. One short daily exercise in it might be sufficient. If a teacher feels that she has not time to spare for so much as one lesson of five or ten minutes each day, then let her arrange for three lessons a week, or two, or at least one.

Object teaching, in its broad and true meaning, is not limited to oral lessons on objects. It is only another name for the right method of teaching every branch of elementary education. It is the natural method, aiming always to teach things and ideas in connection with words, which are but arbitrary signs of things and ideas. It aims to teach everything in the way best calculated to lead the pupil to self-education and self-development. If asked to name the most essential element in object teaching, in its wide signification, I should say it is its tendency to excite the curiosity or desire of knowledge. Perhaps it would not be extravagant to say, that any method is good or bad just in proportion as it tends to stimulate or repress this principle of action. "To acquire knowledge, or to discover truth," says Dugald Stewart, "is the proper object of curiosity;—a principle of action which is coeval with the first operations of the intellect, and which, in most minds, continues through life to have a powerful influence, in one way or another, on the character and the conduct. It is this prin-

ciple which puts the intellectual faculties in motion, and gives them that exercise which is necessary for their development and improvement.

\* \* \* I wish to impress on all those who have any connection with the education of youth, the great importance of stimulating the *curiosity*, and of directing it to proper objects, as the most effectual of all means for securing the improvement of the mind; I may add, as one of the most effectual provisions that can be made for the happiness of the individual, in consequence of the resources it furnishes when we are left to depend on ourselves for enjoyment; and, in consequence, also, of the progressive vigor with which it operates to the very close of life, in proportion to the enlargement of our experience and the extent of our information."

It will be observed that the curiosity on which so great a stress is laid, is that curiosity alone which has *truth* for its object.. It is not the curiosity to know what is said, but the curiosity to know what is true. 'In all the instruction imparted, and in all the studies pursued, in our schools, it should be the constant aim of the teacher to awaken, stimulate, and strengthen this curiosity, and to turn it to useful pursuits. And here I would remark, that it is a circumstance of the very highest importance in education, that the curiosity should be directed to the acquisition of knowledge, with a view to moral improvement and the promotion of the happiness of society.

The history of self-educated men is but the history of the operation of this principle. The life of Dr. Franklin, the most illustrious of all the graduates of our schools, is full of instruction on this point. He left school at the age of ten years, with a very small stock of school learning. In the eyes of a mere "haberdasher of nouns and verbs," or of one of Carlyle's "gerund-grinders," his education would have appeared very deficient. But somehow, either by his teachers at school, one of whom, he said, employed the "most encouraging methods," or by his parents at home, his curiosity, which was, doubtless, naturally strong, had been awakened. And it was the vigorous and persevering operation of this desire for knowledge which impelled him to that self-education which made him great. Says Miss Edgeworth, "The first thing that strikes us, in looking over Dr. Franklin's works, is the variety of his observations upon different subjects. Wherever he happened to be, in a boat, in a mine, in a printer's shop, in a crowded city, or in the country, in Europe or America, he displayed the same activity of observation. When anything, however trifling, struck him, which he could not account for, he never rested till he had traced the effect to its cause."

It cannot be doubted that it should be the chief end and aim of early education to develop activity of observation; and the normal method of accomplishing this object is to exercise the observing faculties in such a manner as to stimulate the curiosity, which is the very essence of object

teaching, as I understand it. The whole system is intended to lead to self-education. In accordance with this idea, if a child is taught to read a word, the aim should be to teach it in such a way as to tend to enable the child to read the next word without help, and to make him desire to do so.

Herbert Spencer, the greatest living writer on education, in Great Britain, is the author of the following admirable sketch of the theory and practice of object teaching in the ante-school period of childhood:—

“It needs but a glance at the daily life of the infant to see that all knowledge of things which is gained before the acquirement of speech is self-gained; that the qualities of hardness and weight associated with certain visual appearances, the possession of particular forms and colors by particular persons, the production of special sounds by animals of special aspects, are phenomena which it observes for itself. In manhood, too, when there are no longer teachers at hand, the observations and inferences required for daily guidance must be made unhelped; and success in life depends upon the accuracy and completeness with which they are made. Is it probable, then, that while the process displayed in the evolution of humanity at large, is repeated alike by the infant and the man, a reverse process must be followed during the period between infancy and manhood, and that, too, even in so simple a thing as learning the properties of objects? Is it not obvious, on the contrary, that one method must be pursued throughout? And is not nature perpetually thrusting this method upon us, if we have but the wit to see it, and the humility to adopt it? What can be more manifest than the desire of children for intellectual sympathy? Mark how the infant sitting on your knee thrusts into your face the toy it holds, that you may look at it. See when it makes a creek with its wet finger on the table, how it turns and looks at you; does it again, and again looks at you; thus saying, as clearly as it can,—‘Hear this new sound.’ Notice how the elder children come into the room exclaiming—‘Mamma, see what a curious thing;’ ‘Mamma, look at this;’ ‘Mamma, look at that;’ and would continue the habit, did not the silly mamma tell them not to tease her. Observe how, when out with the house-maid each one runs up to her with the new flower it has gathered, to show her how pretty it is, and to get her also to say it is pretty. Listen to the eager volubility with which every urchin describes any novelty he has been to see, if only he will find some one who will attend with interest.

“Does not the induction lie on its surface? Is it not clear that we must conform our course to their intellectual instincts,—that we must just systematize the natural process,—that we must listen to all the child has to tell us about each object, must induce it to say everything it can think of about such object, must occasionally draw its attention to facts it has not yet observed, with the view of leading it to them itself whenever they recur, and must go on, by and by, to indicate or supply new series of things for a like exhaustive examination?

“See the way in which, on this method, the intelligent mother conducts her lessons. Step by step she familiarizes her little boy with the names of the simpler attributes, hardness, softness, color, taste, size, &c., in doing which she finds him eagerly help, by bringing this to show her that it is red, and the other to make her feel that it is hard, as fast as she gives him words for these properties. Each additional property as she draws his attention to it in some fresh thing which he brings her, she takes care to mention it in connection with those he already

knows; so that, by the natural tendency to imitate, he may get into the habit of separating them one after another. Gradually, as there occur cases in which he omits to name one or more of the properties he has become acquainted with, she introduces the practice of asking him whether there is not something more that he can tell her about the thing he has got. Probably, he does not understand. After letting him puzzle awhile, she tells him; perhaps laughing at him for his failure. A few recurrences of this, and he perceives what is to be done. When next she says, she knows something more about the object than he has told her, his pride is roused; he looks at it intently; he thinks over all that he has heard; and the problem being easy, presently finds it out. He is full of glee at his success, and she sympathizes with him. In common with every child, he delights in the discovery of his powers. He wishes for more victories, and goes in quest of more things about which to tell her. As his faculties unfold, she adds quality after quality to the list; progressing from hardness and softness to roughness and smoothness, from color to polish, from simple bodies to composite ones, thus constantly complicating the problem as he gains competence, constantly taxing his attention and memory to a greater extent, constantly maintaining his interest by supplying him with new impressions, such as his mind can assimilate, and constantly gratifying him by conquests over such small difficulties as he can master.

"In doing this she is manifestly but following out that spontaneous process that was going on during a still earlier period, simply aiding self-evolution; and is aiding it in the mode suggested by the boy's instinctive behavior to her. Manifestly, too, the course she is pursuing is the one best calculated to establish a habit of exhaustive observation; which is the professed aim of these lessons. To tell a child this and to show it the other, is not to teach it how to observe, but to make it a mere recipient of another's observations; a proceeding which weakens rather than strengthens its powers of self-instruction, which deprives it of the pleasures resulting from successful activity,—which presents this all-attractive knowledge under the aspect of formal tuition,—and which thus generates that indifference and even disgust with which these object lessons are not unfrequently regarded. On the other hand, to pursue the course above described, is simply to guide the intellect to its appropriate food; to join with the intellectual appetites their natural adjuncts,—*amour propre*, and the desire for sympathy, to induce by the union of all these an intensity of attention which insures perceptions alike vivid and complete; and to habituate the mind, from the beginning, to that practice of self-help which it must ultimately follow."

Is not this evidently nature's method, and therefore the true method? Of course, nobody supposes that the precise details here described are to be copied in the school-room. It is the system, the philosophy, the theory, the method, the spirit, that I would hold up for study and imitation. The system is comprised in three words, sympathy, curiosity, and self-help. The teacher must put herself in communication with the child's mind before she can really do anything for its education; and this is done by means of sympathy only. This young teachers are much less likely to understand than those of maturer years. Then the thirst for knowledge is to be awakened and strengthened by the skilful guiding and exercising of the observing faculties. If the right kind of mental food is presented to the child's mind, at the right time and in the right way, he will have an



appetite for it, and the appetite will grow by what it feeds on. And finally, the child must, at every step, be led to do everything for itself which it can do, and be thrown upon its own resources, as much as possible, and be directed in such a manner as to make it feel that it is self-directed, and helped in such a manner as to make it think that it is doing everything without help. These three things, which constitute the substance and spirit of object teaching, are not to be applied successively at different periods of time; they are to go together at all times, and in every exercise, and every lesson, whether in reading, spelling, writing, numbers, drawing, printing, or on objects. To prevent misapprehension, I will add that I would not be understood as saying that the three elements I have named comprise the whole of object teaching, or the method of nature; what I mean is, that they are the essentials.

I am well aware that the untrained, uneducated, narrow, routine, rote-teaching teachers, will not accept this doctrine; or, more precisely, I should say, cannot accept it. Their experience has taught them that children do not like to learn, that nothing but compulsory drill will bring them up to the required standard of scholarship, and they have no faith in any other method.

Well, there are two things to be said to such teachers, and to all persons who take the same ground; first, the required standard, it is true, is not always the proper standard, and therefore it cannot be reached by pursuing the proper methods; and, second, the experience upon which so much stress is laid probably does not include a fair and full experiment with the object teaching method.

Having laid the great English educationist under contribution for a picture of object teaching in the home, before the child is sent to school, I will introduce, by way of contrast, another picture, drawn by the hand of Rev. Warren Burton, the best American writer on this subject, exhibiting, perhaps in rather strong colors, the characteristics of that type of elementary instruction which has been too common, and is not yet wholly extinct, that type which object teaching is designed to reform:—

"This is what we do, we grown-up and pretendedly grown-wiser people; we catch up the acting, looking, learning, working and manufacturing, happy little creature, and clap him, together with twenties, thirties, forties, or fifties besides, into a wooden box, hardly, in some instances, large enough to hold them without jamming and hurting one against the other; and fasten him upon a seat, out of the reach of the many objects he has been in the midst of, and which he has been doing with, as nature intended. Yes, there we fasten him, or permit our agent, the school committee or the school teacher, to do it; and we make him bend his neck and fix his eyes on a plain, dry surface of paper. This he must not cut, fold, crumple, or variously shape, in the way of cultivating his manufacturing abilities. No: he must look straight down upon this metamorphosis of cotton. Were it but the rags out of which it came, many-shaped, many-hued, there would

be something to hold the eye ; but what does he see now ? Words, words, words ; little black, immovable images, which he cannot get his fingers under. What cares he for them ? Nature made him to care for things, and for words too, just so far as they stand for the things he has to do with, or can have any clear idea of. He indeed has an appetite, if we may so speak, for words, so far as they convey any ideas ; but we do not consult his appetite, but give him the words all tasteless of meaning. When I say this, I do not mean to convey, that no explanations at all are ever given, but that none scarcely are given, in a large majority of schools, take the country through, in immediate connection with the things to which they belong. Before the child enters school, it is always things ; then words. At school, it is first words, and then things ; that is, if the pupil shall happen to come across them. Otherwise, he must go without such substantial acquaintance. Now, this ought not to be. This period, lent by nature to prepare for future industry and livelihood, ought not to be so unprofitably and wretchedly spent. In all common sense and true philosophy, this paper-deadening, in-blinding delusion should be put away. But what shall take its place ? Realities, life, thought, action, intelligence ; just what the child has been forced to leave at his own home. This might be done, and how easily and cheaply done besides ! Really it would not cost on the whole so much as school-weariness or school-hate costs, when it breaks over bounds and runs wild into mischief."

It is object teaching, rightly applied, which will give to the school the needed "realities, life, thought, action, intelligence." And in whatever school these elements are found they have been produced by object teaching, as I understand it, and by no other agency. If these characteristics are not found in any school which pretends to be an object teaching school, then it is not conducted in accordance with the spirit of that object teaching which I approve. I have already stated what I deem to be the essential elements of this system ; but another very important element is suggested by Mr. Burton's description of the opposite system. It recognizes the duty on the part of teacher to teach as well as to set tasks and hear recitations. Now it is very true that teaching and hearing recitations are often combined to some extent in the same exercise, and this is well. But it is not a very common practice to teach an advance lesson before it is given out to be prepared for recitation. This ought to be done much more than it is. I do not mean that every difficulty is to be explained, and every problem solved, for the pupils, but that just the help, and just the explanation, and just the suggestions needed should be given.

There are those who condemn and ridicule object teaching, as they understand it. And I do not blame them in the least for so doing, for their error is not in rejecting true object teaching. They are not passing judgment on the genuine article, for they do not know what that is. They have only seen or heard of the counterfeit, the poor imitation, and they are right in pronouncing it worthless. Were they to see the real thing, and fully understand its nature and scope, they would probably accept it and value it. Their judgment is all right, as far as it goes. Their fault

consists in presuming to speak *ex cathedra* upon a subject which they have not fully investigated. No mere printed page can convey an adequate conception of a true object teaching school. The school itself must be visited; its operations must be attentively studied and its results carefully examined. But, nevertheless, some general notion of the spirit and aims and methods of this system may be gathered from the following extract, from a very able report on the subject, prepared by Professor S. S. Greene, of Brown University, and read at the last annual meeting of the National Teachers' Association:—

"But what is object teaching? Not that so-called object teaching which is confined to a few blocks and cards to be taken from the teacher's desk, at set times, to exhibit a limited round of angles, triangles, squares, cubes, cones, pyramids, or circles; not that which requires the pupil to take some model of an object lesson drawn out merely as a specimen, and commit it to memory; nor is it that injudicious method which some teachers have adopted in order to be thorough, that leads them to develop distinctions which are suited only to the investigations of science; nor is it a foolish adherence to the use of actual objects when clear conceptions have been formed and may take the place of physical forms; nor is it that excessive talking about objects which makes the teacher do everything, and leaves the child to do nothing,—that assigns no task to be performed,—a most wretched and reprehensible practice; nor, again, is it that which makes a few oral lessons, without anything else, the entire work of the school.

"But it is that which takes into the account the whole realm of Nature and Art, so far as the child has examined it; assumes as known only what the child knows,—not what the teacher knows,—and works from the well known to the obscurely known, and so onward and upward, till the learner can enter the fields of science or abstract thought. It is that which develops the abstract from the concrete,—which develops the idea, then gives the term. It is that which appeals to the intelligence of the child, and that through the senses until clear and vivid conceptions are formed, and then uses these conceptions as something real and vital. It is that which follows Nature's order,—the thing, the conception, the word; so that when this order is reversed,—the word, the conception, the thing,—the chain of connection shall not be broken. The word shall instantly occasion the conception, and the conception shall be accompanied with the firm conviction of a corresponding external reality. It is that which insists upon something besides mere empty verbal expressions in every school exercise,—in other words, expression and thought, in place of expression and no thought. It is that which cultivates expression as an answer to an inward pressing want, rather than a fanciful collection of pretty phrases culled from different authors, and having the peculiar merit of sounding well. It is that which makes the school a place where the child comes in contact with realities just such as appeal to his common sense, as when he roamed at pleasure in the fields,—and not a place for irksome idleness,—not a place where the most delightful word uttered by the teacher is "dismissed." It is that which relieves the child's task only by making it intelligible and possible, not by taking the burden from him. It bids him examine for himself, discriminate for himself, and express for himself,—the teacher, the while, standing by to give hints and suggestions,—not to relieve the labor. In short, it is that which addresses itself directly to the eye, external or internal, which summons to its aid



things present or things absent, things past or things to come, and bids them yield the lessons which they infold,—which deals with actual existence, and not with empty dreams—a living realism and not a fossil dogmatism. It is to be introduced in a systematic way, if it can be done,—without much form where system is impracticable; but introduced it should be in some way everywhere. It will aid any teacher in correcting dogmatic tendencies, by enlivening his lessons, and giving zest to his instructions. He will draw from the heavens above, and from the earth beneath, or from the waters under the earth, from the world without and from the world within. He will not measure his lessons by pages, nor progress by fluency of utterance. He will dwell in living thought, surrounded by living thinkers,—leaving at every point the impress of an objective and a subjective reality. Thoughtful himself, he will be thought-stirring in all his teaching. In fact, his very presence, with his thought-inspiring methods, gives tone to his whole school. Virtue issues unconsciously from his every look, and every act. He himself becomes a model of what his pupils should be. To him an exercise in geography will not be a stupid verbatim recitation of descriptive paragraphs, but a stretching out of the mental vision to see in living picture, ocean and continent, mountain and valley, river and lake, not on a level plane, but rounded up to conform to the curvature of a vast globe. The description of a prairie on fire, by the aid of the imagination, will be wrought up into a brilliant object lesson. A reading lesson descriptive of a thunder-storm on Mount Washington, will be something more than a mere conformity to the rules of the elocutionist. It will be accompanied with a conception wrought into the child's mind, outstripped in grandeur only by the scene itself. The mind's eye will see the old mountain itself, with its surroundings of gorge and cliff, of woodland and barren rock, of deep ravine and craggy peak. It will see the majestic thunder-cloud moving up, with its snow-white summits resting on walls as black as midnight darkness. The ear will almost hear the peals of muttering thunder as they reverberate from hill to hill.

"A proper care on the part of the teacher may make such a scene an all-absorbing lesson. It is an object lesson,—at least, a quasi-object lesson,—just such as should be daily mingled with those on external realities. To give such lessons, requires, on the part of the teacher, a quickened spirit,—a kind of intellectual regeneration. Let him but try it faithfully and honestly, and he will soon find himself emerging from the dark forms of Judaism into the clear light of a new dispensation. Indeed, this allusion contains more than a resemblance.

"The founder of the new dispensation was called, by way of eminence, 'The Master.' In him was embodied and set forth the art of teaching. He was the 'teacher come from God' to reveal in his own person and practice God's ideal of teaching. And did he not invariably descend to the concrete even with his adult disciples? Hence it was that 'the common people heard him gladly.'

"Whoever will study the lessons given by him will see with what unparalleled skill he passed from concrete forms up to abstract truths. He seldom commenced with the abstract. 'A sower went forth to sow;' 'A certain man had two sons;' 'I am the vine, ye are the branches,'—are specimens of the way he would open a lesson to unfold some important abstract truth. The best treatise on object teaching extant is the four Gospels.

"Commencing as if he discovered an interior fitness in the object itself, he would lay under contribution the wheat, the tares, the grass, the lilies, the water, the bread, the harvest, the cloud or the passing event, and that to give some important lesson to his disciples.

"The abstract we must teach, but our teaching need not be abstract. We may approach the abstract through the concrete. We must do it in many cases. And the methods of our Saviour are the divine methods, informally expressed in his life. Let us reverently study them, and enter into the spirit with which they were employed. Such, in brief, are the fundamental uses of objects; such the adaptation of the human mind in its development to external Nature; such its growth and ever increasing capacity to interpret the revelations of her myriad forms; and such the wonderful power of language."

In connection with this admirable statement of the nature and scope of the system, I cannot forbear to quote the following comprehensive summary of its ends and uses, from an excellent little book on "Early and Infant-School Education," by James Currie, Principal of the Church of Scotland Training College, Edinburgh:—

"The predominant aspect of the object lesson is the mental exercise it gives; it is meant to awaken the intelligence, and to cultivate the different phases of observation, conception, and taste, without which little satisfactory progress can be made in their future education. It is a disciplining, not a utilitarian, process; the information it gives is a means, not an end.

"The range of this department of instruction is exceedingly comprehensive. It draws its materials from all the branches of knowledge, dealing with things which can interest the child or exercise his mind. Thus, it is Natural History for children; for it directs their attention to animals of all classes, domestic and others, their qualities, habits, and uses; to trees and plants and flowers; to the metals and other minerals which, from their properties, are in constant use. It is Physical Science for children; for it leads them to observe the phenomena of the heavens, sun, moon, and stars, the seasons, with the light and heat which make the changes of the weather, and the properties of the bodies which form the mass of matter around us. It is Domestic Economy for children; for it exhibits to them the things and processes daily used in their homes, and the way to use them rightly. It is Industrial and Social Economy for children; for it describes the various trades, processes in different walks of art, and the arrangements as to the division of labor which society has sanctioned for carrying these on in harmony and mutual dependence. It is Physiology for children; for it tells them of their own bodies, and the uses of the various members for physical and mental ends, with the way to use them best and to avoid their abuse. It is the science of common things for children; for it disregards nothing which can come under their notice in their intercourse with their fellows or their superiors. And, finally, it is Geography for children; since it has favorite subjects of illustration in mountain and river, forest, plain, and desert, the different climates of the earth, with their productions and the habits of their people, the populous city, and the scattered wigwags of the savage."

There are those, I am well aware, who will say that all this is throwing away time and energy; and that children would be better occupied in reading and spelling, and in learning the multiplication table, and so fitting themselves for the practical business of life. Where schools are controlled and taught by persons entertaining this narrow view of the objects and methods of education, children must continue to pass much of their school

life in unprofitable employment, or in their idleness. But, fortunately, it is no longer a question whether this department of instruction shall constitute a part of the training prescribed for the pupils in our Primary Schools. It has already been fully provided for in the schedule of subjects to be taught in these schools; and, besides, we have, in successful operation, an excellent Training School, where ladies who are to become teachers of Primary Schools are acquiring a thorough knowledge of the theory and practice of the system. It only remains for the teachers to conform to the requirements of the regulations in this respect. If there is any teacher who has not yet made a beginning in lessons on objects, it is to be hoped that she will not longer defer it. Some excellent teachers unconsciously carry the spirit of the system into the teaching of the ordinary branches, and by so doing, produce very satisfactory results. But they would produce still better results, if they would go a step farther, and devote a part of their time to special lessons on objects. Some are deterred from undertaking this description of teaching, by the erroneous notion that an object lesson must be given after a certain technical formula which they do not understand. But the truth is that the most effectual lessons for young children are generally those which have the least appearance of formality. By speaking familiarly with them about objects within the range of their experience and observation, we shall awaken their curiosity and cultivate their attention.

The conversational method is the best, although the topics should not be left altogether to chance. The different subjects to be taught should be introduced in their natural order, and in harmony with each other,—and they should be graduated to suit the age and proficiency of the pupils. The conversational teaching has ever been regarded by the most eminent educators, as the most appropriate and effective mode of proceeding in early education. It was so peculiarly the method of Socrates that it is known by his name. It was recommended and illustrated by Rousseau and by Miss Edgeworth; and Pestalozzi and Fellenberg made it their chief instrument of instruction. Dr. Franklin has told us in his autobiography how his father made use of it in the education of his children. "At his table," he says, "he liked to have, as often as possible, some sensible friend or neighbor; and always took care to start some ingenious or useful topic of discourse, which might tend to improve the minds of his children. By this means he turned our attention to what was good, just, and prudent, in the conduct of life." At an educational meeting held in Plymouth County in 1838, Daniel Webster expressed his views on this topic in the following language: "It has become the fashion to teach everything through the press. Conversation, so valued in ancient Greece, is overlooked and neglected; whereas it is the richest source of culture. We teach too much by manuals, too little by direct intercourse with the pupil's mind; we have

too much of words, too little of things. Take any of the common departments, how little do we know of the practical detail, say geology. It is taught by books. It should be taught by excursions in the fields. So of other things. We begin with the abstracts, and know little of the detail of facts; we deal in generals, and go not to particulars; we begin with the representatives, leaving out the constituents. Teachers should teach things." And Spurzheim, using the words signs, and ideas, as synonymous with "representatives" and "constituents," says, "school education, after the monkish and old-fashioned system, begins with teaching printed and written signs, without explaining their signification, and even the instruction we commonly receive in colleges, is more a communication of signs than ideas. Youth are admired and rewarded in proportion as they know signs."

I have witnessed some conversational lessons in a Primary School by Mr. Alcott, our great master of conversation, and the pioneer of infant school teaching in this country. I wish every teacher could enjoy the same privilege; but as this is not practicable, the next best thing is to read his golden words on this subject:—

"Conversation is the mind's mouth-piece, its best spokesman; the leader elect and prompter in teaching. Practised daily it should be added to the list of school studies; an art in itself, let it be used as such and ranked as an accomplishment second to none that nature or culture can give. Certainly, the best we can do is to teach ourselves and children how to talk. Let conversation displace much that passes current under the name of recitation; mostly sound and parrotry, a repeating by rote, not by heart, unmeaning sounds from memory, and no more. Good teaching makes the child an eye-witness, he seeing, then telling what is seen, what is known, or comprehended; a dissolving of the text for the moment and a beholding in thought as through a glass. 'Take my mind a moment,' says the teacher, 'and see how things look through that prism,' and the pupil sees prospects never seen before or surmised by him in that lively perspective. So taught the masters: Plato, Plutarch, Pythagoras, Pestalozzi; so Christianity was first published from lovely lips; so every one teaches deserving the name of teacher or interpreter. Illustrations always apt; life calling forth life; the giving of life and a partaking. Nothing should be interposed between the mind and its subject-matter; cold sense is impertinent; learning is insufficient; only life alone,—life, like a torch, lighting the head and the heart. Even so are children made partakers of it; are asking for it every day over their books, in school-rooms and elsewhere, and getting some elsewhere in these times of activity. \* \* We are wont to associate college acquirements, books, erudition, with the office of teaching, and to consider learning as the teacher's chief qualification. It is a sad mistake, and the schools have been the sufferers from it. Books were thoughts first, their contents the results of thinking,—they should be baits for thought and study. We need minds whose thoughts are the substance and soul of books; persons of good gifts, having thoughts and feelings, and who can impart them in lovely ways, can dissolve the book and show its contents outside of its covers; meeting their classes, first, to hear all they can recite out of their books,

and then to pour from a glowing mind a flood of light over the pages, and create the subject anew before their eyes, inspiring them with the soul of creation. We want living minds to quicken and inform living minds. A boy's life, a maiden's time, is too precious to be wasted in committing words to the memory from books they never learn the use of."

This conversational teaching is especially needed by the great mass of children who come from homes of poverty and ignorance. Many of these children, who are of the age to be admitted to the Grammar School, and are able to read with considerable fluency, are extremely ignorant of "common things," and, what is still more to be deplored, they have had too little instruction in what is "good, and just, and prudent in the conduct of life."

As a means of promoting object teaching in our schools, it is desirable that committees should, in their visits and examinations, call for the exercises in this branch which the regulations require. Teachers feel themselves under the necessity of giving their efforts mainly to those branches and subjects which tell in examinations, and hence the mode of examination adopted by committees has a powerful influence in determining the kind of instruction imparted. It should therefore be the aim of all who have the supervision of schools to bestow the highest commendation for that kind of service which really does the most good to the pupils, and not that which merely makes the best show in a recitation. The law of demand and supply is as certain in its operation in the school-room as in the market. A few years ago script writing was rarely seen in any of our Primary Schools, but now that the facilities for teaching it have been supplied, and the masters of the Grammar Schools examine pupils in this branch for admission into their schools, it has become universal. So it will be with object teaching. When teachers find that they can afford to give time to it, they will not be slow in finding out how to handle it to advantage. They will have by them the works of Sheldon, or Calkins, or Burton. They will have their collection of objects,—animal, vegetable, and mineral; artificial and natural; indigenous and exotic; domestic and foreign; and so we shall at length witness the consummation of the wish expressed by Professor Agassiz, that every Primary School might have its own little museum. When our children shall have been taught according to the true spirit of this system, both morally and intellectually, they will be found on their holidays crowding the galleries of our noble Museum of Natural History, instead of crowding, as they are now too much inclined to do, the halls and galleries of negro minstrels; and when they sit down to read at home, they will prefer useful and instructive books, to "dime novels," and other novels of low degree.

*Superintendent of Public Schools.*—JOHN D. PHILBRICK.



## CHELSEA.

Chelsea is poor, we know; the taxes are borne almost entirely by real estate, and are already sufficiently large for the dispositions and pockets of the payers. But Chelsea cannot afford to look back in her career of prosperity. She cannot afford to have poor schools, inefficient teachers, or dilapidated and unhealthful school-houses. We must not, to imitate Boston or any other city, expend money unnecessarily in princely salaries or on palatial school-houses; but, whatever is necessary is right, and as the supply of children is large, and not in present prospect of diminution; and as we acknowledge, and the law secures, the right to education, competent teachers and sufficient buildings must be provided. Some of the old buildings referred to may, by patching, eke out for a year or two yet their forlorn existence; but in this, as in other matters of the kind, it will be found that a wise liberality is the best economy. "There is that scattereth and yet increaseth; and there is that withholdeth more than is meet, yet it tendeth to poverty."

Closely connected with the last subject in its influence on the character of our schools, blending with it in its effect on the treasury, is the subject of salaries. The time has gone by when a sufficient grammar master can be had for a thousand dollars per annum. No man, with a family to support, can live as this community would be willing and would expect a schoolmaster to live, providing himself with the necessary books and lectures, which are the tools of his trade, and by which he keeps himself abreast of the age, on much less than double that sum. The appearance of mercantile and financial matters certainly is as if we had entered upon a cycle of high prices. Many able men have come to believe that this generation will never see again the old low prices for articles of family consumption. This being the case, it becomes us to look the position squarely in the face, and wisely, economically, but with judicious liberality, pay our employees fair salaries as compared with the value of their services in other places. "Education," said Edward Everett, "is a better safeguard for a nation than a standing army; and in proportion as you diminish the wages of the schoolmaster you must raise the pay of the recruiting sergeant."

The largest salary now paid to an assistant teacher in our Grammar Schools is \$425. Any one of them possessed of sufficient health could earn more with a sewing machine. A first-class dress-maker will command more cash, and board besides. A capable domestic can earn \$150 a year and board. Nearly all of our teachers are entirely dependent on their unaided exertions for a livelihood; and a number of them have relatives dependent upon them. In either case, where respectable board commands four dollars and a half per week, there can be no surplus against a rainy day. Numbers of our teachers, after deducting board, have less than one

hundred dollars per annum for all other expenses. If we desire to enter the tuition market, to buy as good merchandise as our neighbors, we must be prepared to pay its market value. The next year's board will doubtless find themselves obliged to advance on last year's salaries.

*For the Committee.*—THOMAS GREEN.

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## ESSEX COUNTY.

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### AMESBURY.

It is painfully evident to the committee that, with the advancement of the material interests of the village, there has been loss of interest in the school by parents. The increased facilities for employment, which the large hat establishments have given, have taken from the school many who ought to have been there. There are certainly fifty scholars in the district who ought to have attended school during the year. The average attendance was, in summer, 32; in winter, 23. When the committee inquired for scholars who had left, or who had not been in attendance, the invariable answer was, "In the factory."

The opportunities for the education of our youth are too soon gone to be thus wasted. A year of school life can never be recalled, and the time will come when parents and scholars will sadly remember the golden hours thrown away for a little temporary gain. More frequent visits to the school-room would deeply impress parents with the importance of the flying years of childhood as the only time to receive the proper intellectual and moral culture for their future usefulness and happiness. On the Public School we must depend for the training of a very large proportion of all our youth. If they are denied this, too meagre at the best, what ought we to expect of their future career but blasted hopes and years of sorrow?

At no time within the knowledge of the committee, have the schools occupied so high a position for efficiency and usefulness, as during the last twelve months. This has been accomplished only by the persistent and long continued effort of all interested in the cause of education. But while we commend the successful effort which has been made to elevate the standard of our Public Schools, we would by no means have our fellow-townsmen relax their support, thinking their work done, and that nothing remains for them to do but continue on in the present well enough course. There yet remains a great work to do, a large amount of ignorance to exterminate, a numerous rising generation to train up in the paths of intelligence, virtue, and morality. No institution has yet arrived at perfection,

and no human mind attained to its most profound acquirement. No community has yet arrived at its highest intellectual stand-point, nor have our schools acquired that rank for intellectual culture, and the full and free development of mind which is essential to complete success.

In order to accomplish this important work, we invoke the active co-operation of parents. Let them, one and all, feel that it is a matter which directly concerns them and theirs, the influence of which is not confined to the present, but will extend to all coming time for good or evil, as they are faithful or unfaithful to their trust. Would you have the rising generation intelligent, virtuous and moral, give your whole influence to the cause of Common School education. Join with the efforts of the committee and teachers to enforce discipline, encourage constant and seasonable attendance, discountenance dismissals under trivial excuses, and, above all, make frequent visits to the school-room. Do not forget that teachers have their trials and troubles to contend with, that they meet with many discouragements, and need your presence and sympathy to encourage them in their arduous duties. Interest yourselves in the studies of your children, examine into their lesson, hear them read and spell words, cipher with them, criticize their compositions, question them in geography, history, and their other studies, and learn the proficiency they are making by daily inspection. By pursuing such a course you will quicken the energies of the teacher, make the task less irksome, and encourage the scholars to improve the brief space of time allotted to the acquirement of an education. When such shall be the condition of the cause, we shall no longer be annoyed with schools unworthy of the name.

*School Committee.*—JOS. MERRILL, Y. G. HURD, G. W. NICHOLS.

## ANDOVER.

We are glad to report that, with perhaps one or two exceptions, all the schools in town have made very commendable progress during the past year. The teachers have remained through the entire year without change, in most of the districts. The interest in the schools has greatly increased until it has at last culminated in the vote passed at the April town meeting to abolish the school district system, and adopt the municipal system in the management of the Public Schools. This was much more than the committee expected, and has thrown a much heavier burden upon their shoulders than they desire to bear alone. The committee was, therefore, well pleased, when, on the request of its chairman, the town appointed a special committee to examine and report on the condition and fitness of the school-houses for the purpose for which they were used, and to suggest such changes in both the houses and apparatus as they may deem best. This



committee was appointed at the adjourned meeting in April, and has greatly simplified the work of the school committee.

By this change of the school system the school committee are now vested with the necessary powers for the grading of the schools, and to make such general regulations as may introduce system into the whole school work of the town. We have therefore thought that we could in no better way conclude our report and set forth the practical advantages to be derived from the change which has been made, than by commencing a code of regulations for the government of the schools in the town of Andover. We shall herewith now print those, only, which are of most pressing necessity. Others will be published as time gives us opportunity to digest them, and experience determines their best form.

*School Regulations of the Town of Andover.*—I. The metes and bounds of the districts, now abolished, shall be retained as a convenient guide in the arrangement of the schools, and their distribution in all parts of the town.

II. (1.) There shall be four grades of schools in the town of Andover, viz.: Primary, Intermediate, Grammar, and the High Schools.

(2.) If in any district or districts this classification of schools is found impracticable, the schools otherwise constituted shall be called Mixed Schools.

(3.) The studies for which provision shall be made in the Mixed Schools shall be such as are embraced in the limits of the course marked out for all the schools of all the grades provided for in the town.

III. (1.) There shall be a Mixed School in each of the following districts, as heretofore, viz.: The Scotland, the Holt, the West Centre, the Osgood, the Bailey, the Abbott, and the North District.

(2.) In any vote equalizing the salaries of the teachers throughout the town, the teachers in these schools shall receive the same salary with the highest in any of the District Schools.

(3.) In the Frye district the schools shall be divided into two departments, called the Senior and the Junior, as heretofore.

IV. There shall be a Primary and an Intermediate School in each of the remaining districts, viz.: South Centre, the Village, the Phillips, and the Ballardvale. In the Phillips district and in all the districts these schools may be united under one teacher, with such assistants as the circumstances of the school may demand.

V. (1.) There shall be two Grammar Schools in the town, one located in the Centre district and called the Central Grammar School of the town, and the other located at Ballardvale and called the Ballardvale Grammar School.

(2.) Promotions shall be made to the Central Grammar School from the Intermediate Schools in the South Centre, the Phillips, and the Village

district, and to the Ballardvale Grammar School from the Intermediate School in that district alone.

(3.) These Grammar Schools shall also be open for the reception of scholars from all the districts in the town, subject to the direction of the school committee, provided that those who apply shall show themselves qualified, as hereinafter required.

(4.) No scholars resident in one district shall attend any Mixed, Primary or Intermediate School in any other district, except by permission of the committee for good reason.

#### VI. (1.) The High School.

The Punchard Free School (in accordance with the law of the Commonwealth, specially provided in the case of the town of Andover,) is hereby recognized as, and declared to be the High School of the town of Andover.

(2.) The rules and regulations of the Punchard Free School are declared to be, so far as they are applicable, the rules and regulations of all the Public Schools of the town of Andover.

VII. (1.) At each annual meeting of the school committee, the schools shall be divided among the members of the school committee, whose duty it shall be, each of them, to act the part of special visiting and prudential committee in regard to those schools committed to his care, provided that the committee appointed to look in upon the High School shall assume no authority as from this committee, but shall act only as the medium of correspondence between this committee and the visiting committee of the school appointed by the board of trustees for the Punchard School.

(2.) Each committee shall visit each school committed to his care within two weeks from the beginning of each term, and shall provide that at least one member of the school committee shall be present at the close of each term in such school. He shall provide all necessary utensils and fuel for the school, and attend to all those duties heretofore performed by the prudential committee of the district. He shall also have a right to appoint a janitor or janitors for the schools under his care.

(3.) All the members of the school committee shall be present at the close of the year. The examinations and the closing of the terms shall be arranged by the chairman of the committee so as to allow this arrangement to be carried out; also so as to equalize the length of the terms in all the district schools throughout the town.

(4.) All moneys from funds or other sources, contributed to lengthen out the schools shall be passed into the hands of the visiting committee for the particular schools designed to be benefited, who shall be held responsible for the application of same to the purpose specified, it being understood that the schools thus benefited shall be continued so much longer than the other schools in the town as the amount of the money contributed will allow.

VIII. (1.) The regular promotions from the various schools below the Grammar Schools may be made by the member or members of the school committee present at the close of any term examination, on the nomination of the teacher of the school for which the promotion is made. Promotions out of regular course may be made by the teachers of the Intermediate and Primary Schools, to the Grammar and Intermediate Schools, on consultation with the visiting committee, and with the teacher of the Grammar School, provided that the scholar so promoted shall have proved himself or herself worthy of promotion and appears capable of doing the work of the school to which he or she is promoted.

(2.) All scholars to be admitted to the Central Grammar School must give satisfactory evidence of the fact that they are at least ten years of age; must be able to read fluently in easy prose from the highest reader appointed to be used in the schools below, and to spell common words of at least three syllables. They must be able to write out sentences in a legible hand. They must pass a satisfactory examination in Colburn's Mental Arithmetic as far as section four, and in Eaton's Arithmetic as far as to vulgar fractions. They are particularly required to be familiar with the several addition, subtraction, division and multiplication tables, and to read and write with promptness Arabic numbers containing eight figures. They must have obtained a general knowledge of the geography of the world, and of the United States, such as would be acquired by having studied through Colton's and Fitch's Primary, and in their Introductory Geography as far as to Mexico. They must have obtained a knowledge of grammar, at least so far as to be able to select the various parts of speech in any common prose sentence.

(3.) In the various promotions, particular reference shall be had to the behavior and deportment of the scholars; and the hope of promotion shall be used by the teacher as a constant incentive to good conduct, and to increased diligence in their studies.

(4.) In the Frye and the Ballardvale districts such a division of the schools shall be made as shall equalize, as far as possible, the work to be done in the several schools of those districts.

IX. The school books to be used in the several Grammar, Intermediate and Primary Schools shall be the same as heretofore in use in the schools, except as additional books may be required in the Grammar School.

X. The examinations of the candidates for teachers shall be held as often, at least, as once a year, as follows:

(1.) Public notice shall be given in the local paper and papers, to all teachers resident in the town of Andover, who wish to be considered candidates for teachers, inviting them to be present at the time appointed.

(2.) Private notice to the same effect shall also be given to any teachers, who, from out of town, have signified during the year, their desire to

teach in Andover, and who shall have replied satisfactorily to questions addressed to them in writing from this committee.

(3.) The day appointed for the examination having arrived, the examination of those present shall be chiefly a written examination. But an oral examination shall be added, together with reading by the several candidates in turn.

(4.) From those thus examined the number of teachers specified in the notice originally given shall be selected, who shall be placed in the schools at the discretion of the committee, as vacancies may occur in positions which they may be willing to accept.

(5.) Other examinations may be had to supply vacancies, if, during the year there remains none of the approved teachers unemployed, or desirous of employment in the schools.

XI. (1.) So far as possible teachers shall be employed by the year, at a salary to be increased at the discretion of the committee, and they are not to be discharged or changed so long as they perform their duties with fidelity and efficiency, to the satisfaction of the committee, unless upon their own resignation.

(2.) The salaries in the corresponding grades of schools shall be equalized throughout all the districts of the town, as nearly as possible.

*School Committee.*—BENJ. B. BABBITT, H. S. GREENE, SAM'L H. BOUTWELL.

## BEVERLY.

Parents have much to do with the prosperity or ill-success of our schools. We have a little advice for such as need it, and we wish to give it in all kindness, but in such a way as to arrest attention and be easily remembered.

1. Send your children to school the very first day of each term. Fail not for the want of forethought, plan and effort.

2. Be sparing of your written excuses for the absences and tardinesses of your children. Avoid the necessity of writing such excuses by keeping them at school every day, during school hours, if it is within the limits of possibility. Thirteen hundred and seventy-five such excuses addressed to one single teacher!

3. If you think your children are not advancing as fast as they might in their studies, which is no uncommon thing with parents, do not utter your thoughts to any one, not even to the committee, until you have seen the teacher and obtained from him all the information you can about the matter.

4. Aid in the government of your school. Do it in this way. Govern your children at home, and authoritatively enjoin upon them obedience at school, so that their teacher will have nothing special to do in enforcing obedience. If, perchance, they receive correction for idleness or some mis-

demeanor, and make their complaint to you, manifest no sympathy with them, make no remark to them unfavorable to their teacher, and say not a word to any one else until you have visited their teacher and heard his statement. You owe this to yourselves, to your children, and the school. What would you think of a judge and jury who should give their decision in a case on trial, having heard the testimony only on one side? Children, in telling tales out of school, are not always to be implicitly trusted.

If you are not satisfied with the treatment of your children at school in any respect, go directly to the teacher, and, without any unnecessary delay, frankly but kindly make known to him your dissatisfaction, and the ground for it. You may find it like the "baseless fabric of a vision."

5. Don't be in haste to have your children pass from the Primary to the Intermediate, from the Intermediate to the Grammar, from the Grammar to the High School. Wait patiently until they are qualified for an advanced position. By following our advice in these particulars, you will render to the schools a valuable service.

*Physical, Intellectual, and Moral Culture.*—As to the first, we here re-affirm our convictions of its importance, and renewedly and earnestly commend it to the practical regard of parents and teachers. In school, let some gymnastic exercise be resorted to whenever the pupils need it, as a cure for restlessness and a quickener of the mind.

The importance of intellectual culture is, in theory at least, universally conceded. Is it not practically regarded as the object designed to be secured by the maintenance of our schools? "Educate! educate! educate!" That is, develop and strengthen the intellectual powers. Is not this too exclusively the education sought and secured? Ought we not habitually to take a broader, a more comprehensive view? Do body and intellect constitute the whole of a child's being? Has it not also a moral, a spiritual nature? If so, should that be neglected? Ought it not rather to be diligently, assiduously, faithfully cultivated? Is not this really the most important thing in a child's education? Instead, then, of being put in the back ground, ought it not to be kept prominently in view?

(1.) How is this subject treated in the Bible?

"These words which I command thee this day, shall be in thine heart, and thou shalt teach them diligently unto thy children, and shalt talk of them when thou sittest in thy house, and when thou walkest by the way, and when thou liest down, and when thou risest up. And thou shalt bind them for a sign upon thine hand, and they shall be as frontlets between thine eyes. And thou shalt write them upon the posts of thy house, and on thy gates."—Deut. vi. 6-9.

These words—what words? Reference is made to the ten commandments, written upon two tables of stone by the finger of God. The first

and great commandment, involving all the rest, is, "Hear, O Israel, the Lord thy God is one Lord: and thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy might." These words thou shalt teach unto thy children—they are to be talked about, explained, enforced, placed in different and conspicuous positions, so as often to meet the eye and engage the attention of the young. The eye as well as the ear is to be made an avenue to the heart and conscience. These words are to be taught diligently, constantly, and by various methods. The paramount importance of this instruction is perfectly obvious from the style of this address. "Ye fathers, provoke not your children to wrath; but bring them up in the nurture and admonition of the Lord."—Eph. vi. 4. In other words, give them such an education as the Lord approves. And can he approve an education which ignores the duty of loving and obeying him? an education in which moral and religious training has no place?

Do any say—All this belongs to parents—to the family—the Sabbath school, and the sanctuary? Then:

(2.) What says human law? How have our legislators regarded this matter? The colonists of Massachusetts Bay, in 1642, in an Act relating to education, required, among other things, "that religious instruction should be given to all children."

The law now in force is in the following explicit, beautiful language: [See Gen. Stat., Chap. 38, Sect. 10.]

How accordant this is with the divine law? Here it is made the duty of teachers in all the Public Schools, to give moral and religious instruction. The experience of this nation, especially for a few years past, shows us clearly the justness of this law and the importance of obeying it. We are referred to "the basis on which a republican constitution is founded." We cannot, within proper limits, notice particularly all the things specified which combine to form that basis. But we feel constrained to notice a few.

(1.) *Love of Country*.—How important that American children be taught to love their own country! And what opportunities teachers in our Public Schools have to impress this on their minds! What a country in itself and in comparison! What a government is ours!

Those who recently did their utmost to overthrow it being judges, it is the best the sun ever shone upon. What did it cost to establish upon these shores republican institutions? What did the Pilgrims do and suffer? What did our revolutionary fathers do and suffer? What have hundreds of thousands, yes, millions of their descendants, through the late unparalleled civil war, done and suffered, to defend and maintain these institutions against ruthless assailants? Ought we not to say, Our dear, our native, or adopted land?

Love of country! Let it be planted in every infant mind, and then let it be cherished by the use of all appropriate means, until it shall be stronger than death.

(2.) *Temperance*.—Always important that no suitable pains should be spared to influence children and youth to refrain entirely from the use of whatever intoxicates, is it not specially so at the present time? The cry of danger is sounded in the public ear from every quarter. Multitudes of men are more or less confirmed in the habits of intemperance. Young men, in numbers truly frightful, have entered upon the drunkard's course, and are hastening on with alarming rapidity to the drunkard's doom. Temptations to drink that which intoxicates and maddens,—their name is legion.

(3.) *A Sacred Regard to Truth*.—It is no very rare thing for teachers to detect their pupils in telling falsehoods, and in deceiving in various ways. Do they not sometimes forge their own excuses for tardinesses and absences? And may not a forgery of this kind, committed thus early in life, lead to some stupendous forgery, like those which from time to time have startled honest people throughout the length and breadth of our land?

A sacred regard to truth! Let it be taught in all our schools, from the lowest up through every grade. Opportunities for doing it will not be wanting. Let them be faithfully improved.

(4.) *Piety*.—And what is the proper import of this word? Webster, good authority in the matter of definitions, says, "Piety in principle, is a compound of veneration or reverence for the Supreme Being and love of his character; or veneration accompanied with love; and piety in practice, is the exercise of these affections in obedience to his will, and devotion to his service." The principles of piety, therefore, embrace more than the moral virtues, as that phrase is commonly used.

Other specifications are worthy of particular notice; but we now commend the statute itself to the practical regard of all the teachers of our children and youth. May it never be to them a dead letter. Let them consider carefully the several things they are required to teach, and especially the strength of the language used. It shall be the duty of all instructors of youth to use their best endeavors. We commend it also to the candid consideration of all our fellow-citizens. We ask them to do all in their power to aid teachers in the performance of so important a duty.

*Chairman*.—E. W. HARRINGTON.

## ESSEX.

*Changes of Teachers*.—The prudential committee of several districts have this year deviated from the usual practice of making a semi-annual change of teachers, by employing female teachers for winter as well as for summer schools.

The experiment has been attended with the most gratifying results. No intelligent person could visit these schools and observe the correct deportment, the cheerful and studious habits, the lively interest and the animated work of the pupils; and observe the earnest devotion of the teachers in their efforts to impart instruction, without carrying away the conviction that there are female teachers who possess a wonderful controlling power; and are doing a work in the education of youth, of inestimable value. The question whether a female can govern and instruct a winter school, is no longer problematical. May the prejudice which exists on the subject, yield to the manifest interest of the schools. Our most successful schools are those in which the same teachers have been retained the greatest length of time. A constant change of teachers is a serious detriment and a great hinderance to the prosperity of a school. The result is, the methods of instruction and discipline are constantly changing, and no fixed habits of study, thought and discipline are acquired by the pupils.

On the introduction of a new teacher, weeks must be nearly wasted in forming that acquaintance with the school which is essential to its proper organization and classification. Months in the aggregate, are thus annually wasted, incurring not only a great pecuniary loss, but what is of infinitely greater importance, a large portion of that period, to which most children are limited for acquiring mental discipline, is frittered away, and the best instruction rendered unavailable. Whereas a teacher familiar with the character and attainments of the school would be able to adapt promptly her instruction to the peculiar wants of each individual mind. Why should these changes be made, when the continuous labors of a permanent teacher are attended with much better results?

*Educational Lectures.*—We would recommend that the selectmen be authorized to appropriate a sum not exceeding twenty dollars, for the purpose of defraying the expenses of educational meetings or lectures under the direction of the school committee, whenever, in their opinion, the interests of education can be promoted thereby.

In this connection we take the liberty of referring to the visit of Rev. B. G. Northup, the State Agent of the Board of Education, on the 4th of January last. Mr. N. visited in the morning, four schools, examined them to some extent and encouraged and cheered them by his valuable remarks. In the afternoon, he addressed the teachers and advanced pupils, and explained his methods of teaching the various branches of education. In the evening he lectured to the public, on topics immediately connected with educational interests. The occasion was one of unusual interest to the committee, and was enjoyed by our teachers and citizens generally. The results have been most happy. A new impulse has been given to the cause of education, and a deeper interest infused into our schools. Teachers have generally become more enthusiastic and devoted in their work;



and even a spirit of generous rivalry has sprung up among them, in regard to carrying out his valuable suggestions and principles of instruction. The committee have been so favorably impressed with the results of his visit from their subsequent visitations of our schools, they cannot withhold from the Board of Education an expression of their high appreciation of the valuable service rendered to the cause of learning in our town.

*School Committee.*—EDWIN SARGENT, DAVID CHOATE, HERVEY BURNHAM.

### GROVELAND.

Like every beneficent work, there needs to be in the education of the young, a cordial co-operation on the part of those whose interest can scarcely be otherwise than instinctive and spontaneous. The training of children is a most responsible work. It involves interests of the most lasting nature. It has to do with the most subtle and delicate powers. It comes in contact with that which is spiritual in human nature. Hence the importance of the utmost judgment and care lest methods be pursued, courses of discipline adopted, plans carried out, which, in the attempt to bless, may only ruin.

The want of all our schools is a judicious oversight on the part of parents and friends, who will personally interest themselves in the work of educating the young; who will take upon their own shoulders something of the responsibility which is now so indifferently thrown upon the shoulders of others; who will generously commend and encourage honest and faithful effort, and who will examine for themselves the exaggerated rumors which breathe a very pestilence often, through the community, and damage the most vital prospects of those who are of an age susceptible of the most lasting impression.

Essential to the success of the school, is a correct and wholesome discipline. It is not possible to decide in all cases, what methods shall be adopted to secure the most perfect order. Where a variety of opinions exists, it is difficult to establish any fixed and unchangeable rules. In all instances when the young can be affected by tender and loving appeals; where the finer sentiments can be reached and acted upon, it is evident there should be no other resort. With some the instinctive sense of right and wrong needs only to be touched, and there is an instant response. The better, nobler nature within prevails over the perverse and the vicious.

While the adoption of sterner methods is still an open question upon which your committee are by no means unanimous, it is evident the public sentiment needs to be raised to a higher plane respecting the behavior of the young, not only in the school-room, but in the streets and in all public places.

Why should it be necessary to discuss the question of discipline in our schools? Why should not children be prompt and studious and obedient under the teacher's as well as under the parent's eye? Why should it not be taken for granted that children will conduct with propriety when they are brought together for instruction? Would not such a presumption greatly facilitate the labors of the teacher, and aid him in the performance of his appropriate work?

The standard of youthful conduct must be raised, before our schools can stand in a position to accomplish the most for those whose mental and moral benefit they are designed to secure. Children must be taught that they are expected to be correct in their deportment, and that any deviation from good behavior is a stigma and a disgrace. When such a sentiment pervades the community we shall be permitted to witness an advance in our schools beyond what we have yet seen.

Your committee take this opportunity to suggest that a most serious obstacle to the prosperity of our schools is the fact that teachers are procured seemingly with reference to a *minimum* price of wages, rather than to suitable qualifications for the work. The blessings of education can never be estimated by dollars, but it is only justice to those who are employed in the service of teaching that they should receive a fair compensation for their labors. In this way alone can we secure teachers who are worthy of the position which they are called to fill, and only when this is done shall we shun the failures, so many of which we are compelled to lament. No small sum should stand in the way of engaging first-class teachers for all the schools of the town.

*School Committee.*—MARTIN S. HOWARD, JAMES L. WALES, NILES T. STICKNEY.

### IPSWICH.

*General Remarks.*—There are four elements necessary to constitute a good school, to wit: a good school-room, intelligent scholars, a good teacher, and interested parents. Any one of these elements being absent, the school must suffer. But some one whose mind is so imbued with the spirit of "ye olden tyme," that he would attempt to convince you that the old-fashioned wooden plough was a superior article to the modern iron one, or that the old primitive wagon, without springs, was a better pleasure carriage than the modern buggy, might disagree with the first of these elements. He would argue that he, and his father before him, went to school in the old school-house where the snow drifted in through the cracks, and all the heat of the huge log fire went out at the chimney, and that they have lived and grown up with "edication" sufficient to carry them through life, and that it is all foolishness to talk about better school-rooms.

But plain common sense teaches a man that he feels better in a pleasant, well-lighted, well-ventilated parlor, than in a cold, unfinished, ill-lighted room at the north corner of his house. A man has more respect for a well-furnished house than for a dirty hovel. And youth and children are very manly in this respect.

Scholars will learn faster in a clean, well-lighted, thoroughly ventilated, comfortably-seated room, than in a dark, besmeared, hacked, filthy place, where the seats are too high for the sitter to rest his feet upon the floor, and too narrow to sit upon without being braced.

*School Committee.*—GEORGE R. LORD, AARON CUGSWELL, CHARLES A. SAYWARD.

### LAWRENCE.

*Truancy.*—The urgent demand for labor in our manufacturing establishments, and the high prices of the necessities of life, compelling the poor to resort to every available honest means for a support, have, doubtless, kept from the streets during the year, many children who would otherwise have been habitual truants.

The truant officer also has, with his accustomed zeal, ferreted out and returned to the schools in which they belonged, many who were absent without sufficient reason, and a few have been brought before the police court, and disposed of as vagrants or guilty of petty crimes.

The truant ordinance passed last year has thus far been practically inoperative. The place established and provided as the "institution of instruction, house of reformation, or suitable place for the restraint, confinement and instruction of any minor convicted of being an habitual truant, or any child convicted of wandering about in the streets or public places of the city, having no lawful occupation or business, not attending school, and growing up in ignorance, between the ages of seven and sixteen years," has not been put in working order. The influence of the truant officer over the younger children continues, and many such are kept in school through fear of his authority. But not so with the older ones, who need the sanction of the law brought more immediately to their attention. That there would be few, and perhaps sometimes none to be restrained and instructed in such a school, is not a sufficient reason that it should not be provided. If providing the place should prevent any of the children of the city from being suitable subjects for such a home, this would be a blessing cheaply purchased. It would, I think, be well to complete the arrangements contemplated by the ordinance, in order that the original intention may be carried out, should occasion require, and the truant officer be thus relieved from the difficulty of enforcing a law without a practical penalty. Should the present demand for labor cease, and the children be discharged

from the various places of employment in the city, we might otherwise have occasion to feel that we had been remiss in our duty in this respect.

*Free Evening School.*—The sixth term of this school commenced with the first week of December, 1864, and closed with the last week of March, 1865. Its advantages were enjoyed by 425 young working people during the last winter—the largest number present being 860, the smallest, 112. Average attendance the first month, 300; the last three months, 250. The new school-rooms in the basement of the City Hall, will accommodate 300 persons to write, and will seat 360.

The present term commenced the present month with over 300, a larger proportion than usual, about 50 being men over twenty-five years of age. Heretofore the instruction by all of the assistant teachers has been gratuitous. The present term they are to be paid a small compensation out of funds provided by the city.

*Secretary and Superintendent of Schools.*—G. E. HOOD.

## LYNN.

Geography should be taught in the Primary Schools principally by object lessons. Lessons on place should first be given, which will prepare the young learners to enter intelligently on the study of geography, by first calling their attention to the distances and relative situation of objects about them, and the manner of representing the same on a map. They may be instructed to draw the school-room, with its fixtures, the play-grounds and appurtenances, with their relative positions, on a given scale. Let them learn distances by actual measurement. Let them have drawn an outline map of the city, upon which may be represented such objects as are most attractive and noted,—the public buildings, the principal streets, the railroads, the depots, the harbor, the wharves, the coast, the ponds, the hills, the valleys, and the principal manufactories. The uses of all these things should be understood by the children, who will manifest surprising interest in the oral explanations. Let them be questioned as to distances and directions, how far and how fast they have travelled by carriage and cars, and let them express how much they know of the geography of their own county and state by actual travel. Let them be required to draw outline maps every day, locating the principal towns, rivers and mountains. An outline map of the United States, for instance, may be drawn on the black-board, which the teacher can fill up, the children naming the objects as they are represented, the principal cities, towns, rivers and mountains, the largest lakes and gulfs, and the location of the Atlantic and Pacific slopes and the Great central plains. They may be instructed as to the climate of the different sections, their varied productions and manufactures. All this and much more can be done very rapidly by practice, and the picture

of the country, the cities, towns, lakes, rivers and mountains will arise, as if by magic, in rapid succession, attracting the most earnest attention, and producing the greatest enthusiasm. In this way geography may be made exceedingly interesting and practical, and what they learn they will have a distinct and vivid conception of, and longer retain in the memory. The habit of using the artificial globe for explanation and oral instruction is highly approved; for children of the age that attend here acquire, remember and understand better by seeing the object, or a representation of it, before them, than by any abstract description.

Object teaching is in accordance with nature and art as they exist around us and are understood by the scholars, assumes as known only what is known by the pupil, begins with reality and passes onward from the known to the acquisition of further knowledge, till the abstract can be understood and properly appreciated. It demands something more than mere expression of words without comprehension; it requires thought and understanding, as well as verbal expression. It leads to correctness of observation, and exact and vivid conceptions. In the hands of every teacher the textbook should be a fountain of life. He must have a perfect knowledge of it, and the ability to use it or not in his instructions, according to circumstances. The aim of teaching is to treat with intelligible ideas, to lead the pupil to think, and not to crowd the memory with words, phrases, and abstract terms imperfectly understood.

Spelling is chiefly an effort of memory, and at no period in life can it be so readily acquired as in childhood, for the memory is then both active and retentive. Spelling is not dependent upon reason, like mathematics, a knowledge of which is more readily acquired as the reasoning faculty becomes developed. It is, therefore, a most appropriate study for these schools. Experience has demonstrated that if one's early education is neglected he rarely ever becomes a good speller, even though, in after life, he becomes distinguished for his attainments in science and literature. The special examinations showed that particular attention had been given to this branch, and that most of the Primaries are deserving of high commendation for their success. Some, however, were deficient in that promptness and drill which impart energy and life to the exercise.

*Methods of Instruction.*—Oral instruction has a favorable influence, not merely on the pupils, but on all those teachers who practise it. There is wide scope for this sort of teaching in every grade of school, from the Sub-Primary to the High; and its benefits are not restricted to any particular class or age, but every scholar should feel its quickening and elevating power. Let not instruction be confined to the text-books in hand, but make use of practical methods, the results of reason and observation, plainly illustrated in appropriate language. Too much dependence is placed on books, as before stated, and too little on common sense, or the right use of reason

in acquiring an education. Some teachers are satisfied, and feel that they have performed their whole duty, when their pupils can repeat the lesson, without investigating whether they comprehend the meaning of the language, or understand the principles intended to be exemplified. A competent instructor is not only master of the book he teaches, but of the science of which the book treats. Hence it is expected and required that he shall not confine himself exclusively to the subject-matter as expressed in the books, but otherwise demonstrate or explain, according to his knowledge or ability.

The memory can retain but a short time the lessons committed, unless they are thoroughly understood and appropriated by the mind for its strength and support, just as food suitable for the physical organs is digested for their development and sustenance. There can be no good scholarship, and no proper intellectual education, without a complete understanding of the lessons taught from day to day. Great efforts and unceasing vigilance are requisite on the part of teachers, that this desirable object may be accomplished. To skim the surface of books, with only a partial comprehension of their contents, creates a habit of doing everything in a superficial and imperfect manner. It is all-important, then, that habits of thoroughness and accuracy in thought should be early acquired, as their influence continues and deepens and widens throughout life. It is one thing to take a book and hear a recitation, and quite a different thing to teach. There are two very different methods of instruction practised in different schools; one teaches to repeat, the other to think. The same is true of nations as of individuals. The Chinese nation is the representative of one system, and the American of the other. The former are a race of imitators and copyists; the latter, a race of thinkers and inventors.

*Physical Training.*—As the direct object of education is to fit the individual for the greatest usefulness, it embraces not simply moral and intellectual culture, but the proper development of the body by physical training. The pupil who has a chest and muscular system well developed by active exercise has a decided advantage in power of endurance and execution, to say nothing of the pleasures of health and the miseries of illness. The mind directly sympathizes with the physical system in weakness and disease, and cannot, from the very constitution of the human organization, analyze and grasp a subject with as much vigor and critical acumen in an unsound as in a sound body. Education fails of its main purpose if the scholar languishes and dies for want of proper attention to the laws of nature in the prosecution of his studies. This may not often happen in our Public Schools, yet we are constrained to believe that, from the stooping forms, contracted chests, and feeble organizations of many observable in some of our schools, far too little attention is given to physical development, both at home and at school. Our recent and protracted



experience in war teaches us a lesson never to be forgotten, that the very existence of a nation depends upon the muscular power, the strong arm and health of the people, as well as upon their morality and general intelligence. It is contrary to the laws that govern and regulate the animal economy to confine pupils of a young and tender age six hours a day, without bodily exercise at regular and stated intervals, except with usual intermission and recesses. The pupil is restive and inattentive under such restraint, and his nature cries out for action and frequent exercise.

The soldier, who perils his life in defence of his country, has privations and hardships to endure, personal comforts and sacrifices to make, that try men's souls as well as bodies; and yet it is indispensably necessary that our young men should be physically competent for such endurance, and our education must be such as to prepare them for it; otherwise our national life must become extinct, and our republican institutions a failure and a mockery among the nations of the earth. If we would have strong and athletic men, our youthful population must not be cramped in their forms, and confined from day to day without exercise sufficient to invigorate the lungs, develop the muscles, and cause the vital current to flow freely and naturally through the channels so wonderfully organized by divine workmanship. How shall this requisition be met? We answer, let children be taught at home as well as at school in hygiene, let physiology be more generally read and studied, and let the teacher train them in calisthenic, gymnastic, or other physical exercise, as far forth as time and circumstances will allow. When, then, our sons and daughters shall go forth into the world to try its realities, to engage in the arduous and responsible duties of American citizens, they will have health and vigor to meet its conflicts, and secure an easy victory over obstacles that readily crush the hopes and prostrate the energies of the weak and debilitated. Having sound bodies as well as sound minds, and instructed in all those things taught in our schools, equally educated, mentally, morally, and physically, who can tell what a bright, beautiful and glorious future is in store for us as a people?

*Chairman.*—DAVID F. DREW.

### LYNNFIELD.

Having in view the prosperity of the State and the importance of agriculture, the legislature, February 5, 1862, passed an Act as follows:—Agriculture shall be taught by lectures, or otherwise, in all the Public Schools in which the school committee deem it expedient. A manual of agriculture has been prepared expressly for the use of schools, and, although your committee have not introduced it into the schools, still, they would call the attention of parents and students to the subject.

Agriculture is not only the most important occupation of man, for it was ordained by the Almighty himself, but it is the foundation upon which all others rest, and the secrets of nature connected with it, constantly court the attention of every inquiring mind.

The investigations of chemistry connected with it, have revealed the laws by which nature carries on the process of vegetation, and produces the supplies which sustain all sentient life. The student will here see with the highest admiration, the contriving power of the Creator in the formation of one of the gases of the atmosphere, from which the greater part of all animal and vegetable bodies are compounded.

Again, botany is intimately connected with the study of agriculture. Aside from the knowledge it discovers of the dietetic value of plants, the inimitable hues of their flowers are the admiration of all intelligent minds.

The dyes of all the looms of ancient and modern times were borrowed from flowers. The philosophers of the East saw, that to please the world, they must follow nature. Mark the lily how it grows. "Solomon, in all his glory, was not arrayed like one of these," says an inspired writer.

"Who can paint  
Like nature? can imagination boast  
Amid its gay creations, hues like these?  
Or, can it mix them with that matchless skill,  
And lose them in each other, as appears  
In every bud that blows!"

How interesting and profitable, then, must the study of agriculture be to all those who purpose to make it their occupation!

*School Committee.*—J. NEWHALL, JAMES HEWES, HENRY E. SMITH.

### MANCHESTER.

It has been the case, in some years past, that inexperienced teachers have been employed in the Primary School, and, quite recently, individuals have applied for it who did not consider themselves qualified to teach so high a grade of school even as the Grammar School. The principle with them is, that reading, spelling, and arithmetic only being attended to in this school, almost any one will answer for a teacher. Now, this is entirely wrong. In such a school is laid the foundation for the whole superstructure of after-acquired knowledge. Here the pupil begins, here takes his first step, always an important one. If correct habits of study are formed, if proper pronunciation and distinct articulation are taught, and proper and respectful deportment are required, as well as constant and punctual attendance, then the school becomes attractive, its duties pleasant, and they are soon eagerly performed, and the foundation is laid for the thorough scholar,



the strong man. But if the opposite course is taken, carelessness, inattention and lethargy are the prevailing characteristics of the pupil, and he soon loses all respect for his teacher and all interest in his studies. Indifferent to every school duty, he becomes shiftless and superficial, and is haunted, as by a malignant spirit, through the whole course of his education, by the evil consequences of bad training in the Primary School. But of these results and dangers, such applicants as those just named know nothing; and your committee have declined to employ them, but have placed the Primary School in charge of a teacher in every way qualified to teach any school in town, and parents have had the opportunity of seeing the difference between a *first* rate and a *fifth* rate teacher, while it is hoped that a system is inaugurated, the legitimate fruit of which will be to give to the High and Grammar Schools the rank and character which their names indicate. The plan has been in operation but two terms, and, so far, its results have fully justified the expectations of the committee. The Primary School, like the Intermediate, stands higher to-day than ever before. Some of the recitations by some of the scholars in this school, might well put, to blush their old brothers and sisters, in higher grades of our schools. In both of these schools, at the final examination for the year, there was a readiness and correctness in recitation, which had never before been equalled, in the same or in any other school in town.

*School Committee.*—D. B. KIMBALL, A. W. JEWETT, THOS. W. SLADE.

### MARBLEHEAD.

The Common School system of Massachusetts has always been her pride, as it is one of the principal means of her defence. It claims a venerable history; it runs back to the period when her foundations were laid. Her founders were noble men, men of large ideas, of lofty resolves, of far-reaching sagacity, of divine affections; they were strong, valiant, and holy. They appreciated learning, piety and freedom, for they were themselves free, and pious, and learned. They had bravely fought the battle of religious and civil liberty for themselves and for the world on the Old Continent; and when they crossed the Atlantic wave to rear upon these new shores the empire of freedom, like true philosophers as well as devout Christians, they made provision for its perpetuity by laying the Bible as the foundation and chief corner-stone. That precious book they had found to be the great charter of liberty, the exhaustless fountain of light, purity and life to men and nations. It made them all that they were; it enabled them to accomplish all that they had done; hence they founded upon this basis of rock their institutions of religion, of government, and of education. They caused the school-house and the church to rise side by side, all over the State, well knowing that mere knowledge is not strong enough to grap-

ple with and overcome the tendencies to corruption either in man or in society,—that virtue and intelligence must go hand in hand, be united in the citizen in due proportions, if society is to be pure and elevated, and free institutions are to be conserved and perpetuated; and also combined moral and religious instruction and influence with the daily instruction of the children in secular knowledge. Edmund Burke hath said: "It is written in the eternal constitution of things, that men of intemperate minds cannot be free. Their passions forge their fetters." And our own peerless Webster hath said: "Moral habits cannot be safely trusted on any other foundation than religious principle, nor any government be secure which is not supported by moral habits. Whatever makes men good Christians makes them good citizens." These immutable principles announced by those great philosophic statesmen, our fathers understood long before, hence our system of free schools open to all the children, on a religious basis, and maintained at the public expense. They knew the value of sound learning and understood the relative importance of educated mind in the social organism—that it ruled society, gave laws to the world. They knew also that the mental and the spiritual were immeasurably superior to the physical and the material. Hence, before making provision for the first material wants of life, except in a limited degree, they founded Harvard College, and established the system of Public Schools for the proper education of all the people. The spirit of the fathers must live in the bosom of every generation as the inspiring and controlling element, and the system of Public Schools which they established receive the first attention, be invigorated and enlarged to meet the increasing demands of our growing country, or the empire of freedom which they founded will be utterly destroyed. In its conservation and perpetuity, therefore, the proper mental and moral training of the children holds the first place; and on every generation devolves the responsibility of giving them such education. This is by far the richest blessing we can bestow upon our children for their own sakes; but it rises immeasurably in importance when we take into view their future relations to society in its smaller and larger circles,—the family, the Church, and the State. When we consider that our free institutions are safe, and the Union impregnable for all coming time, only on the condition that the people of every generation shall be characterized by a broad intelligence and a high Christian morality;—when the fact takes full possession of us, then we shall learn the value of our schools, where the foundation stones of character are laid, the principles which govern life are established, and the mental and moral habits are fixed. Then, and only then, shall we estimate the importance of a substantial, virtuous education for all the people, all over this broad land. An educated and virtuous people cannot be enslaved. An ignorant and vicious people cannot be free. It is absurd to talk of freedom to those who are

too ignorant to understand and appreciate it ; so also is it useless to expect its defence from those who are the degraded slaves of their own passions. The lands of tyranny are, without exception, the lands of darkness—lands where the common mind is excluded from knowledge. Alas ! for the day when in this land we shall have an aristocracy of knowledge. Our fathers made provision against this evil in the only effectual way, in our system of Common Schools to be supported at the public expense. This they regarded a wise provision, needed to insure the public health, wealth and safety ; the only rock on which our Temple of Freedom could rest, secure alike from the assaults of despotism and passion. And if this was a necessity in a limited domain, and a small and homogeneous population, much more is it a necessity in a vastly extended territory, with a population rendered heterogeneous by the influx of millions from every nation under heaven, and increasing constantly in a degree unparalleled in the history of the nations. Yes, all the people must be solidly and properly educated as the only guarantee of perpetuated liberty. We want not only our Harvards and our Yales—our institutions of classical learning, of theology, of medicine, of law—but we must have Public Schools in every town sufficient for the mental wants of the entire population, as the first thing, at whatever expense. Let what else be neglected, this must be attended to. We cannot afford to dispense with it. It is our life. The soldier who fights our battles, the sailor who mans our ships, the merchant, the manufacturer, the mechanic, the farmer, the fisherman, the day-laborer—our wives and daughters, as well as the sons and fathers, must be wisely and solidly educated, as the terms of a rational and enduring liberty—liberty regulated by law.

But this education must have a *religious basis*, not sectarian except in the sense that the Bible is sectarian—broad but distinctively Christian. So our fathers thought, and so we think. Reading, writing, arithmetic, are not education, any more than a saw, a chisel, and a plane are carpentry. All such and similar acquisitions are mere instruments capable of being applied to the accomplishment of good or evil, according to the amount of intelligence and moral principle in the character of the possessor. The acquirements mechanically imparted to evil-minded men can serve only as so many master-keys to break into the sanctuary of humanity. Knowledge is power, but power for evil as well as for good. It is not enough that a man know what is right, but he must have the disposition to do what is right, or he will be a polluter of society, a firebrand in the State. For this reason, the schools where our future citizens are preparing for their duties and responsibilities, should rest on the pure and broad religious basis of the Bible, whose spirit should pervade and control them, and be unto them the authoritative standard of moral principle, the teacher of moral truth, the commander of moral duties, the enforcer of moral obliga-



tion, as well as the expounder and vindicator of the rights of men, in their relations to human society.

It was not till a late period that Marblehead availed herself fully of the privileges of the system of Public Schools. Seventy years ago there was only one Public School in town, and that a Grammar School, with a teacher competent to fit boys for college. There were several private schools where children were taught the rudiments of learning, but they did not include all the children. Marblehead Academy was then in the freshness and vigor of its youth, and performed a noble work in the cause of education, as it did also for a great many subsequent years. Many were fitted in its halls for their college course who have attained to eminence in the learned professions; many others for mercantile pursuits, who have been distinguished among the successful merchants and ship-masters of the land; and many others still who have adorned the walks of domestic life by their well disciplined minds, richly stored with the treasures of learning. But this was confined to a limited number; the people as a whole were in no way directly benefited by the instructions of the Academy, being unable to avail themselves of its advantages. So that the noble institution, with all its blessings for the few, was of no avail for the many; thus creating by the necessities of the case that aristocracy of knowledge which is not in harmony with republican institutions. About sixty-five years ago, two houses were erected by the town, which are still in use, in each of which a school was maintained at the public expense. But these, with the Central School, were manifestly inadequate to the wants of a town of nearly six thousand inhabitants. It is less than twenty years since a change came over the town in its educational provisions, and the graded system of schools, with all its superior advantages, was established, adequate to the wants of all the people and open alike to all. This was a great change from the old order of things. From its establishment to the present, this system has been enlarging its sphere and increasing its efficiency, destroying forever the aristocracy of knowledge, and supplanting all private schools, with the exception of two or three for small children. Since that time ten new and commodious houses have been erected, some of which contain two, others three schools. We have now eighteen schools and fifteen hundred children in the different stages of a good education; and the system requires only the wise and efficient co-operation of the town, with the school committee, in order to furnish all the education needed by our children short of the University.

*High School.*—This school has from its origin suffered from the frequent change of principals, having had ten different ones in the past eleven years. Nothing can be more disastrous to a school than a frequent change of teachers; and no greater blessing can be enjoyed than the permanency of a good teacher. If the first principal of our High School—an accom-

plished and successful educator—had been retained,—as he might have been, by a reasonable addition to his salary,—the school would have long since reached that position desired by every friend of our highest moral and social interests, which would furnish all the education in the higher branches, needed by our youth of both sexes, short of the college halls. And, moreover, it would have imparted a higher character to all the schools in the grades below, and given such an appreciation of the blessings of sound scholarship and generous culture, as would afford a guarantee for the proper education of the children in all coming time, and the consequent moral and social elevation, intelligence and refinement of the community. The failure to do it was a disastrous mistake, the evil consequences of which have been felt ever since. And not the least of these was the establishment of a precedent for insufficient salaries, and thus became the fruitful parent of those frequent changes we so much deplore, which have prevented the High School from attaining the standard so devoutly wished by its friends, and obliging the committee even now to say only that it is advancing towards it.

*School Committee.*—B. R. ALLEN, W. B. BROWN, ANDREW LACKEY, BENJAMIN P. WARE, N. P. SANBORN, WILLIAM GILLEY, Jr., STEPHEN HATHAWAY, Jr., THOMAS FOSB.

## NEWBURY.

Mental, social, moral, these are the elements of character upon which the superstructure that we term education must be built. It were hard to tell which of these three should receive the most of time and attention. Understand us not as giving these equal value in the formation of character. Place the latter as far above the former in this regard as you will, and then it does not follow that its culture and training requires more of time and attention than the others. Indeed, the three are so involved in their relations to the whole man, that their culture never should be separated. "The Bible is full of histories, maxims, laws, just as might be expected in a book which ignored any other life than that which now is. One-half of it (within bounds) might remain as it now is, on the supposition that men have neither hopes nor duties but such as pertain to them as *joint* tenants of this earthly life. Jesus thought it not beneath the dignity of his office, nor the sacredness of the Sabbath, nor the proprieties of the synagogue, to discourse to people on politeness and good breeding; nor to enforce attention to decorum by the comparatively low consideration, 'Thou shalt have worship in the presence of them that sit at meat with thee.'"

Hence we would extend the influence of our schools over a wide field, and the responsibility of the teacher should cover its whole extent. It is not beyond or below their sphere to teach their pupils to sit, or stand, or



walk gracefully and properly. They should train their charge to be observant of all the social amenities of life. The conduct of all members of the school should often be brought to the touchstone of right and wrong. Even the *appearance* of evil should be carefully avoided. The course of a teacher may often be proper and right and yet to the partial view of a scholar it may seem to be a violation of justice. It is better often to explain, although it may not immediately concern a scholar, than to suffer an observant one to remain with the impression that the conduct of a teacher is contrary to the rules of rectitude. No punishment, however slight, should ever be inflicted until the offender is fully aware of his delinquency, and then he should reap the fruit of his doings *surely*, always being careful that punishment should be proportioned to the magnitude and repetition of the offence.

Our schools are but Common Schools. The large majority of our children commence, continue and close their school days at one school; hence we have felt a special necessity in placing a very high comparative importance upon the so called lower branches of education. We cannot give to our children an extended course of instruction; but if this was to be obtained at the expense of thoroughness in the lower branches, we would not accept the opportunity. We think that the boy or girl who can read well and spell well, can with facility write a plain, clear hand, has a thorough knowledge of Colburn's and of written arithmetic so far as to include simple interest, who has some correct ideas of the simplest elements of English grammar, and knows the important geographical features of the earth, has truly a *good common education*. If to these be added an appreciation of the value of intellectual culture, and that discipline of mind that enables one to gratify the desire for knowledge, though surrounded by adverse circumstances, we consider it an *excellent* education. It is not enough that we have good recitations in our schools, for after all, the best education consists less in the extent of our knowledge in science and art and literature, than in our continued growth in mental culture. The minds of our children need to be trained to intellectual life and activity. Take for instance the study of geography: how very little we acquire in the schools compared with what we might in after life were our tastes trained to make the most of our opportunities! So the study of grammar in school should be but the stepping-stone to a life-long self-training in the structure and use of language. Still more important is it to acquire in early life the power and habit of reading easily, naturally, correctly, and with good taste. But most of all is it important to train our children in articulation and pronunciation, for it is more important to converse well than even to read well; and no one can converse well or read well whose articulation or pronunciation is imperfect. In some of our schools, especial attention has been paid to these.

*School Committee.*—WILLIAM LITTLE, JOHN H. CALDWELL, JUSTIN O. ROGERS.

## NEWBURYPORT.

The Course of Study in the *Classical Department* of the Brown High School is as follows :—*First Year*—Arithmetic finished, Algebra commenced, United States History, Intellectual Arithmetic, Latin Grammar and Lessons. *Second Year*—Algebra completed, Geometry commenced, Book-keeping, Greek Grammar and Lessons, Latin Grammar and Caesar. *Third Year*—Ancient History, Latin Composition, Greek Grammar and Lessons, Anabasis commenced, Latin Grammar and Cicero. *Fourth Year*—Greek Prose Composition, Ancient Geography, Greek Grammar, Anabasis completed, Homer, Latin Grammar and Virgil.

In the *English Department* :—*First Year*—Arithmetic, United States History, Intellectual Arithmetic, English Grammar, Natural Philosophy. *Second Year*—Algebra, Geometry commenced, Book-keeping, Physical Geography, English History, Chemistry, or Physiology. *Third Year*—Geometry completed, Plane Trigonometry, Ancient History, Constitution of the United States, Astronomy, French. (Two may be omitted.) *Fourth Year*—Navigation, Surveying, Spherical Trigonometry, Mental Philosophy, Rhetoric, English Grammar, French. (Two may be omitted.)

Students in the English department may be allowed to study Latin, or Astronomy, omitting an equivalent in the English course.

Exercises in Declamation and English Composition are required of each student every month, and semi-weekly Reading, Writing and Spelling.

The Course of Study in the Female High School is as follows :—*First Year*—Arithmetic finished, Algebra commenced, History of the United States finished, History of England, Ancient History commenced, Latin or English Grammar, Quackenbos's English Composition commenced. *Second Year*—Algebra finished, Geometry commenced, Ancient History finished, Watts on the Improvement of the Mind, Natural Philosophy commenced, Latin or English Grammar, Quackenbos finished. *Third Year*—Geometry finished, Philosophy finished, Botany, Physiology, Chemistry commenced, Rhetoric commenced, French, Latin or English Grammar. *Fourth Year*—Chemistry finished, Astronomy, Rhetoric finished. Moral Philosophy, Intellectual Philosophy, Paley's Natural Theology, Butler's Analogy, Milton's Paradise Lost, French, German.

Shakspeare, Thomson's Seasons, Cowper's Task, and other English poets, used during the course for reading and analysis.

Reading, Penmanship and Composition during the course.

*School Committee.*—DAVID J. ADAMS, WILLIAM E. CURRIER, JAMES W. CHENEY, CHARLES C. DAME, CUTTING PETTINGELL, RICHARD PLUMER, THOMAS BORDEN, JOHN H. SMITH, JAMES N. SYKES, NATHAN A. MOULTON, HORACE CHOATE, JOSEPH C. ADAMS.

## SALEM.

The Grammar Schools have lately received an accession of about fifty pupils from the discontinuance of the Catholic school for boys in Mall Street. This sudden contribution of boys, enough to fill a school-room and one teacher's hands, occasioned the committee a momentary embarrassment. But they welcomed these children cordially to the Public Schools. They came none too soon. It would be a calamity if each sect should withdraw its children from the Public Schools, and educate them without cost to the public treasury, even if they could give them as good an education as the Public Schools give them, which they cannot do. If it would be bad for all sects to do this; it is not good for one to do it. It should never be the American way. It has not been the Massachusetts way. It is not promotive of good citizenship. More than ever before can it be seen to-day how Common School education has fortified the State. We have received these pupils back to the Grammar Schools, therefore, with satisfaction.

*Second Visiting Committee.*—E. B. WILLSON.

## SALISBURY.

It is a fact, within the observation and knowledge of all, that all departments of life and business have become, and are now, very much more expensive than they were a few years since, and the support of teachers and of schools must of necessity be attended with an increase of expense in the same proportion; therefore a demand is made upon the town to increase its appropriations for educational purposes, so that our children and youth shall not sustain an irreparable loss in consequence of the blind policy and parsimony of their friends. Our Common Schools underlie all our literary advantages and institutions, and are the nurseries of our academies, colleges and universities. In the Common School is made the life-blood which circulates through the social and moral, the business and political world. Our schools and our churches are the strength and safety and glory of our country. An intelligent and virtuous people may be safely intrusted with the control of government, and the interests and management of the nation. We think our citizens understand, and are fully aware of this, and will never suffer the character, influence and usefulness of their Public Schools to decline, for want of frequent and generous appropriations to the school fund of the town.

We urge this matter with the greater earnestness from the fact that the law of the Commonwealth makes it the duty of the town to establish a High School, for the general benefit of the youth in the town. If we will sin against the State, ourselves and our children, by this persistent and



culpable neglect, then let us make atonement for our sin of delinquency by elevating and generously supporting the schools which we have already in town, and thus save the interests of education from detriment and injury at our hands, and ourselves from the charge of parsimony and illiberality.

*School Committee.*—A. G. MORTON, BENJAMIN EVANS, STREETER EVANS.

### SAUGUS.

*Educate the whole man.*—All the faculties of the mind, the heart and the soul are given us for use, and should be used vigorously. Not to use them, or to use them in a listless, indolent manner, is to abuse them—all should be improved. The mind itself was made to work; its primeval law is growth by work; it can gain strength only by spending it.

And as with the mind, so with the body; those muscles which are little used, receive but little nourishment, and are weak, while those which are used freely become wonders of beauty, elasticity and power. Again, no one faculty should be improved at the expense or to the neglect of another. The intellectual, moral and muscular development should go hand in hand. All are but parts of one more perfect whole; each in its own appropriate office; but all working together for the good of the creature and the glory of the Creator.

We need good hearts as well as good heads. Greatness of parts is not true greatness.

“If parts allure thee, think how Bacon shined,  
The wisest, brightest, meanest of mankind.”

One may be wickedly wise as well as madly brave.

*School Committee.*—A. B. DAVIS, JOHN ARMITAGE, E. G. LANDERKIN.

### SOUTH DANVERS.

The following are the *Rules and Regulations* of the High School:—

SECT. 1. Candidates will be examined for admission to this school on the first Monday in April, or on such day previous, after the close of the Winter Term as the Committee may direct. Every candidate must be at least 12 years of age, and must pass an examination in the following studies, viz.:—English Grammar, Arithmetic, Geography, United States History, Writing and Spelling; and a thorough knowledge of these studies will be required for admission.

SECT. 2. The regular course of study in this school shall embrace a period of three years. But scholars who desire to continue their studies, or to fit for college, may remain four years.

SECT. 3. Scholars who remain in the school the full term of three years, and pursue the number of studies required by the Regulations, and

whose deportment and progress have been satisfactory, shall be entitled to receive the Peabody Medal.

SECT. 4. Any scholar who may be absent from the school five times in any one term, except in cases of sickness or death in the family, or some cause of like necessity, shall be required to present a written excuse from the chairman of the school committee.

SECT. 5. The time allowed each day for recess shall be thirty minutes, to be given in one or two portions, at the discretion of the teacher.

SECT. 6. Unless otherwise ordered by the committee, there will be one daily session of this school as follows, viz.:—From April 1st to November 1st, to commence at 8 o'clock and close at 1 o'clock; and from November 1st to April 1st, to commence at half-past 8 o'clock and close at half-past 1 o'clock.

SECT. 7. Scholars who take but two studies shall have a corresponding reduction in their credits for recitation.

The *Course of Study* is as follows:—

FIRST YEAR. *First Term.*—Required—Mathematics, (Arithmetic and Algebra,) English Grammar.\* Elective—Latin Grammar.† *Second Term.*—Required—Mathematics, (Arithmetic and Algebra,) English Grammar. Elective—Physical Geography, Latin Grammar and Reader. *Third Term.*—Required—Algebra, English Grammar, Physiology. Elective—Latin Grammar and Reader.

SECOND YEAR. *First Term.*—Required—Geometry, Natural Philosophy. Elective—French, Botany, Latin Reader. *Second Term.*—Required—Geometry, Natural Philosophy. Elective—French, Latin Reader or Cæsar. *Third Term.*—Required—Natural Philosophy, General History. Elective—French, Latin, (Cæsar.)

THIRD YEAR. *First Term.*—Required—Chemistry, General History. Elective—French, Botany, Latin, (Virgil.) *Second Term.*—Required—Chemistry, General History. Elective—French, Geology, Whewell's Elements of Morality, Virgil. *Third Term.*—Required—Astronomy, Reviews, History. Elective—Latin, (Virgil,) French, Botany.

Trigonometry, Surveying, Engineering, etc., taught in special cases when desired.

Each scholar is required to pursue three studies. Where the studies marked *required* are less than three in number, a third must be chosen from the studies marked *elective*. Latin, French, or Greek, if commenced, must be studied at least one year, and cannot be dropped, except at the close of the year. All other elective studies, if commenced, must be continued during the time assigned.

*School Committee.*—WM. M. BARBOUR, FITCH POOLE, AMOS MERRILL, FRANCIS MARSH.

\* Book-keeping is a *required* study for boys during the second year. It is an *elective* study for girls during the same year.

• Greek may be commenced in this term and pursued during the whole course.

## SWAMPSCOTT.

There are several things that have been suggested to our minds while making our monthly visits, as well as upon examination day, that deserve a passing notice, and one is, the matter of classing pupils in our Public Schools. The better a school is classed, the less labor on the part of the teacher, and the more profit to the scholar. If it were possible, it would be a good thing to have all in the same room in the same class; but this would be a perfect grade, and this we cannot hope for, so long as we have such a variety of age and unequal progress among our school children. Still, may there not be an approach to this perfect system of grading? In this new school we have as good an illustration of this grading or classing the scholars as we have in town. But how is this? By referring to the register and statistical report we have in part a solution of this problem. The age and acquirements of these scholars are very nearly alike; hence the good classification. The teacher should always avoid multiplicity of classes, even though there is not that evenness of knowledge in the several branches that would be desirable. By putting a dull and backward scholar into a class with an active and advanced scholar, it will have often the very best effect. The dull boy is stimulated to greater activity, and so much so that he overtakes and sometimes goes beyond his competitor.

And here comes the question, what shall be done with the indifferent, the backward and lazy ones in our schools? Are not these found in all our schools, and are not these dronish ones directly in the way of the perfect grading to which reference has been made? It is plain to see that this school caste arises not so much from want of genius as want of application. The only remedy is to urge habits of study and earnest work. There is need of caution here. We must make a distinction between scholars who study well and faithfully, and yet fail, and those who are not willing to make any effort to do well.

There are cases that we have observed where pupils have been actually dunces in "book knowledge," and yet have had more wit and good sense, and general intelligence, than the mere "memoriter" scholar. These are the exceptions. In general we must admit that a stupid and lazy boy will become a stupid and lazy man, not capable of effort, and devoid of public spirit.

Some have fluency of speech as a gift, but this does "not measure real ability."

"Almost all great men who have performed, or who are destined to perform great things, are sparing of words. Their communing is with themselves rather than with others. Napoleon became a babbler only when his fate was decided, and his fortune was on the decline." This remark is singularly illustrated in the life of Lieutenant-General Grant. He is emphatically a man of no words, but of great acts!

In the real capacity of the scholar there may be a great difference, and that may present a real obstacle to the perfect grading and classing of the school; but as a general thing, the laboring point of this whole matter lies in the indifference and absolute laziness of the scholar; so the question arises, what shall be done to rouse up such scholars to their duty? Another caution is needful here: the teacher should make a distinction between the stupid and slow, for the slow and sure make in the end more reliable scholars than those who are more "quick-witted." We have seen this illustrated in our families and schools.

Based upon these remarks, we call the immediate and earnest attention of all our teachers to this important matter of classifying the schools. Concentrate, as far as you can, all your mental force. You will save much time and labor, as you very well understand, by a better classification.

*School Committee.*—J. B. CLARK, DANIEL W. FULLER, JOHN P. PALMER.

### TOPSFIELD.

We think that our schools, during the past year, when considered together, have had considerably more than an average degree of success. This result is chiefly due to the employment of teachers of undoubted qualifications for the performance of their arduous and responsible duties. The committee have taken special pains to procure good teachers, and have been fortunate in their selection. The most important element in a school is a good teacher. And when competent instructors are obtained, they should be retained in their places, and no cause, except the best good of the schools, should be allowed to have influence in changing them. We change our teachers too frequently. Rotation has been the rule rather than the exception. No sooner has one been fully installed, than he has had to make way for another, less qualified oftentimes than the teacher displaced. This has been inseparable from the old custom of employing a female teacher in the summer, and a male teacher in the winter. That custom may now be superseded by the employment of female teachers exclusively, throughout the year. Such may at the present day be obtained, as are in every respect qualified to be the instructors in our schools. Females improve the rare advantages offered to prepare themselves for the profession of the teacher. They devote their time especially to that pursuit. They have tact to govern, skill in imparting instruction, a quick perception of the peculiarities and needs of the scholar, and all the qualifications requisite for successful teachers. Their services also can be procured at a comparatively low figure, so that we can have longer schools than formerly for the same money. These remarks seem to be called for, as there are some among us who are of the opinion, that greater good is realized by the employment of male teachers in the winter. We would not be understood

as underrating the services of male teachers, but we would urge the economical expenditure of the school money, and the continuance in our schools of competent and faithful teachers.

*Superintendent.*—JUSTIN ALLEN.

### WENHAM.

*Home Education.*—This important duty devolves on every parent and guardian. If a child is not trained to obedience in early life, but grows up addicted to disobedience, profanity, falsehood, idleness, and other kindred vices, he cannot exert that influence upon society and the world, which every parent wishes his child to exert. When he attends school his conduct is similar to that at home, and if made to obey, it is rather by compulsion than with a willing mind.

If our schools are to be taught by females, especially in the winter, how important it is that parents should feel responsible for the conduct of their children, and should use every influence to control and govern them!

*School Committee.*—STEPHEN DODGE, HENRY PATCH, N. P. PERKINS.

### WEST NEWBURY.

*Duty of Parents.*—The parents have an important connection with the school. Whatever efforts they make to awaken and stimulate the interest of their children in study, to secure punctual and regular attendance upon the school, to see that the child understands his lessons, are all invaluable helps to the teacher.

If the child gets the notion that his school life is a matter of secondary importance, if home influences hinder his student life, the teacher labors at great disadvantage in striving to awaken his ambition. If every trivial complaint of a child is taken up and nursed at home, the influence of the teacher is destroyed. Children are wanting in forethought; they long to play the part of men and women. They are quite too willing to leave school at the first excuse, and engage in earning money. The temptation is strong on the part of parents, when children's labor commands good wages, to take them out of school and put them to work. There may be a hard necessity for this in some cases where limited means and high prices press with united emphasis in this direction, yet it is a question which every parent ought to ask, am I not limiting the future of my child? The loss of early advantages may be the permanent loss of the future man or woman. Too many of the children who ought to be in the school-room are in the shoe and comb manufactories.

*School Committee.*—O. WARREN, T. C. THURLOW, D. FOSTER.

## MIDDLESEX COUNTY.

## ASHLAND.

None will read this report, who have not themselves had experience in attending schools. Let us appeal to you reader. When you went to school do you not remember some families in the district, very likely those who lived most remote from the school-house, whose children were always there, and always in season; who seemed to think more of the school than anything else; who esteemed the teacher very highly, cultivating his acquaintance, and making him their friend, whose children loved the teacher next to their parents? Perhaps it was your fortune to belong to such a family. Did the children of such well regulated families have any trouble at school? Were they backward, standing at the foot of their classes? Or was it precisely here, in these families, that the brightest ornaments of the school were found? Was it not from their homes that those came forth, who were relied upon to uphold society, and to support our institutions? True they might have been in humble circumstances, but they had in them the qualities out of which useful men and women might be made, and by suitable and necessary parental instruction, aided by the pride of New England, to wit, our Common Schools, these qualities were developed and matured.

And have you not also known, reader, families where the reverse of all this was true? Where the children were allowed to go to school if they wished, and if they wished were allowed to stay at home. If they desired to pursue a particular study, which might be as unsuitable for them as it would be to take up Greek, or were requested by the teacher to study some branch of which they were ignorant, and their wishes were not complied with, they would at once leave the school. And still other families where the children, who having been always accustomed to governing their parents at home, would make "a fuss" if they could not govern the teacher at school; speaking harshly and improperly of the teacher, when the observance of just and necessary rules, made for the common good of all, came in conflict with their wayward course. And you have known the parents in such cases, to recho the sentiments of their children, instead of directing them into a better channel, taking sides at once, without inquiry or investigation, and openly and publicly speaking against the teacher, "in season and out of season," thereby doing what they may to destroy his influence and ruin the school. Do you find our best scholars here? Are the brightest ornaments of our schools found in families where the children are

reared under such influences? Is it from these families, that we look for men and women to come up, who will be the future stay and support of all our institutions? Or rather, do we not find that those who have never learned to obey in youth, who do not know how to control themselves, when they go forth into society become a scourge, and a curse to the community? Reader to which of these classes do you wish your children to belong? Tell me in which class you are yourself, and it is very easy to say where your children will be found.

*For the Committee.*—WM. F. ELLIS.

### BELMONT.

*Rules and Regulations.*—Teachers shall punctually observe the hours appointed for opening and closing the schools; and during school hours shall faithfully devote themselves to the public service.

The morning exercises of all the schools shall commence with reading a portion of the Scriptures; the reading to be followed by repeating the Lord's Prayer.

Good morals being of the first importance to the pupils, and essential to their highest progress in useful knowledge, they shall be carefully instructed to avoid idleness, profanity, falsehood, deceit, with every wicked and disgraceful practice, and it shall be the duty of the teachers, so far as practicable, to exercise a general inspection over their pupils in these regards, both in and out of school, also while going to the same and returning home, and upon all suitable occasions to inculcate upon them the principles of truth and virtue.

Any teacher may, for the purpose of observing the modes of discipline and instruction of others, dismiss his or her school one day in each term to visit any school or schools in town, by and with the consent of the sub-committee of the school.

It shall be the aim of all teachers to avoid corporal punishment, so far as is compatible with the maintenance of good order, and each teacher shall keep a record of all instances of inflicting corporal punishment, which shall be kept for the inspection of the school committee at all times.

For violent or pointed opposition to authority in any particular instance, the teacher may exclude a pupil from the school for the time being, and shall immediately inform the parent or guardian of the child, also the sub-committee of the school; and no such child shall be permitted to return unless by permission of the sub-committee or by vote of the board.

It shall be the duty of teachers to give vigilant attention to the ventilation and temperature of their school-rooms.

The teachers shall make such rules in regard to the use of the cellars, yards and out-buildings connected with their school-houses, as shall secure

their being kept in a neat and proper condition ; they shall examine them as often as may be necessary for such purpose, and shall be held responsible for any want of neatness or cleanliness on their premises, and when anything is out of order, shall give immediate notice thereof to the sub-committee of the school.

No child shall be admitted into any of our schools without first having been vaccinated or otherwise secured against the smallpox. Neither shall any child who comes to school without proper attention having been given to the cleanliness of his person or dress, or whose clothes are not properly repaired, be permitted to remain in school, but shall be sent home to be prepared for school in a proper manner.

The school year shall consist of three terms, viz. :—The Spring term, from the first Monday in April, thirteen weeks. The Fall term, from the Monday following the Summer vacation to Thanksgiving week. The Winter term, from the Monday following Thanksgiving to the last Monday in March. Thus giving the schools the following vacations, to wit :—Fall, Thanksgiving week ; Spring, week preceding the first Monday in April ; and a Summer vacation, which shall consist of eight weeks at the close of the Spring term. The following shall be holidays granted to the schools, viz. :—Every Saturday ; Fast Day ; May Day ; seventeenth of June ; Fourth of July ; Christmas ; twenty-second of February. And no school shall be suspended on any other occasion except for special and important reasons relating to a particular school, and then only by express permission of the sub-committee, endorsed by the chairman of the board.

*School Committee.*—WM. A. BLODGETT, AMOS HILL, DANIEL F. LEARNED, JOSIAH S. KENDALL, WM. J. UNDERWOOD.

## BILLERICA.

Modern commonwealths present three different methods of educating the mind of the masses. The first is the German or Prussian, which is purely governmental. Educational institutions are under laws and regulations which proceed from the crown, provincial government and communes. Every child from seven to fourteen years is obliged to attend school, under pains and penalties. The second is that of England. The education of the people is under the care of the established church, the government bestowing aid when its assistance is required. The third is the educational system of the United States. The State governments take the initiative and ordain that schools of a certain character must exist among a given population. The minor questions are subjected to the decisions of the free people of the respective communities. The latter system has been greatly blessed. It is more or less complete in different localities according to the attention bestowed. New England leads the van, not only of the Union,



but of the world, in the matter of well-directed educational measures. Here education is demonstrated to be the great refiner and elevator of society, as ignorance is the tap-root of evil.

*School Committee.*—Be sure they do not crave the office. Its cares and perplexities are not small nor few, and the legal remuneration does not compensate the time demanded. They stand in their lot and place, constrained by a sense of obligation to the rising generation. They demand and should receive the sympathy and co-operation of every public-spirited, high-minded individual.

*School-Houses.*—"Cleanliness is next to godliness," and "order is heaven's first law," are familiar words which we have heard quoted at school examinations. Both "cleanliness" and good "order" may be secured in school-houses where the important requisites of comfort, convenience and attractiveness are lacking, but we seriously apprehend that the lack of such desiderata as the latter will not inspire the former. "I like sparkling water from a sparkling goblet," remarked a gentleman, the other day, to the writer, by way of expressing his gratification at hearing a well written address from an eloquent speaker. The Christian Commission found, in the dissemination of their religious books, that an attractive binding had much to do with the benefits accruing from the volume itself. Let this principle be applied to the subject under contemplation. Well behaved and tidy pupils are worthy of a comfortable, convenient and attractive school-house. That a few of ours have not these characteristics it will require no force of logical argument for us to demonstrate. These "few" are standing monuments of a former century. Cold in winter, hot in summer, without proper means of ventilation, illy-lighted, with faulty furniture, and the walls embellished (?) on the one hand by blackboards where the white predominates, and on the other by torn paper maps, issued before Kansas or even California became a State. "A word to the wise is sufficient."

*Teachers.*—It was Dr. Bushby who, when asked how he continued to keep all his preferments and the head mastership of Westminster School, through the successive but turbulent reigns of Charles I., Oliver Cromwell, Charles II. and James, replied—"The fathers govern the nation, the mothers govern the fathers, the boys govern the mothers, and I govern the school." The deduction which we make—and a fair, logical conclusion we think it to be, borne out by facts—is this: that our teachers are the moulders, the "governors" of our Commonwealth and nation. What a commission is that of the school teacher, rearing the tender thought not for the community, but for the world—not for time, but for eternity! His task—what is it? Herbert says—"The task of the instructor consists in transmitting and interpreting to the new generation the experience of the race." Our statute law says—"It is to impress on the minds of children and youth

the principles of piety, justice, and a sacred regard to truth, love for their country, humanity and universal benevolence, sobriety, industry and frugality, chastity, moderation and temperance."

There is a great diversity in teachers. Some possess excellent natural abilities, but no skill, tact. Occasionally the reverse is the case. These deficiencies should be made the subject of reform.

Careful observation of the excellencies and faults of teachers, lead us to a few suggestions :

1. The importance of elementary instruction. Of little utility is it to attempt the study of any subject, if its alphabet, its first principles, are known only confusedly.

2. Simplicity in instruction. Regard should be had for diversities of mind and character, and education rendered conformable to nature—easy, agreeable and attractive—it being borne in mind that form, number and language are the elements of knowledge.

3. The necessity of life and spirit in the recitations. This, on the part of the pupils, is acquired through, inspired by, a manifestation of the same on the part of the instructor.

4. Thoroughness. Better a little at a time, well learned, than much half learned.

All the schools of our town, the past year, have been taught by females. A writer of the fourteenth century defines the proper education of woman as "knowing how to pray to God, to love man, to knit and to sew." We accept the definition with the additions which the enlightened Christianity of the nineteenth century dictates. Some have pleaded the "comparative cheapness," others the "superior availability," of females as teachers; others, with more comprehensive discernment, lay stress upon the superior average fitness of females as instructors of children and youth. The decided decrease of male and increase of female teachers throughout the Commonwealth, determines the appreciation with which female scholarship is now held.

*Parents.*—Many parents will read this report. Let such be impressed with the importance of hearty co-operation with the teacher. Let them work together with her. A salutary home influence is what is chiefly demanded. The "Emile" of Rousseau contains a system of education according to which the charge of early education belongs properly to the father and mother. And the Swiss Pestalozzi, who, for the last hundred years, has exerted the strongest influence upon education in Germany, develops principles according to which education must begin under the influence of home. And it must not only commence but it must continue here. Teachers are largely dependent for their success upon the manner in which parents second their efforts. Too many parents appear to think that the school takes the children out of their hands—relieves them of all

responsibility. It is not so. The teacher stands *in loco parentis*—in the place of the parent—only in a limited sense. The parent's influence cannot be dispensed with without serious detriment. And here we would suggest the propriety of occasional visits on the part of the parent to the school-room, thereby evincing both to teacher and pupil that they are not altogether indifferent to the privileges there accorded and the improvement made.

*Government.*—System and good order are the very first requisites to success in teaching. How shall the enforcement of discipline be effected? As we have already suggested, home influence has much to do with the success of any school. There is a great difference in teachers. Some maintain a certain degree of composure and dignity which commands respect. Others, by extreme loquacity and relaxation of discipline, lose all control over their pupils, and "school-room anarchy" is the "order of the day." Two extremes there seem to be in the management of scholars; one in the line of corporal punishment—that of force or will; the other in the line of moral suasion—that of influence or conscience; "the police and the parental system," they have been termed. A healthful medium between the two systems is the course of action which modern education inculcates. The courts of law authorize the infliction of corporal punishment commensurate with the necessities of the case. "Circumstances alter cases," and if a penalty must be inflicted it should always be with a calm, affectionate, but determined spirit. Reasonable requirements, however, almost invariably, we believe, will receive obedience. There is nothing like good common sense, on the part of the teacher, backed by a will which admits of no vacillation. A positive but mild character accomplishes much more than a negative and boisterous one.

*Morals.*—It is a pleasing thought that the revival of intellectual culture among the people was associated in the mind of Luther with religious reform. There is a wisdom which is paramount to the education of the mind: we refer to the education of the heart. And "the fear of the Lord is the beginning of (this) wisdom." The statute makes it obligatory to instil good morals and religious principles into the hearts of the pupils, and a higher law and statute imposes the same obligation: "Train up a child in the way he should go," etc. While, then, we cultivate the one element, the intellectual, let us not forget the moral. And here we would call special attention, on the part of teachers, to the law relative to the reading of the Bible in our schools. Under the claims of moral culture we are led to allude to the subject of reverence. A courteous demeanor marks every well-bred youth. A lamentable absence of respectful deference is observable in the present generation. Time was when an appropriate recognition greeted every adult from the young; and he who neglected to "make his manners" was regarded as an ill-bred boy. Let it be the aim of parents

and teachers to encourage polite behavior on the part of the young to their seniors, instructing them to reverence what is venerable and to love what is good.

*Physical Training.*—" *Sana mens in sano corpore.* 'A sound mind in a sound body.'" These words it would be well to have emblazoned upon the walls of every school-house in the land. A strong working intellect in a frail body is like a powerful boiler used to drive insufficient machinery. We do not believe that the three requisites of the Persians for their sons, as narrated by Herodotus—"to ride, to draw the bow and to speak the truth"—are the only ones, by any means, which should be incorporated into our school system; but we do believe in a measure in that physical training which lent vigor and physical endurance to both the Persian and Grecian race. Too often among us the brain is cultivated to the neglect of the body. The introduction of gymnastic exercises into our schools has been regarded by some as an innovation unworthy of sanction. This feeling, however, is wearing away; and while we do not advocate as necessary in our country schools that thorough course of gymnastic training pursued in many of our cities, we do commend to all our schools the example set by one of them, where the energies rendered sometimes dormant by the routine of study, are quickened by daily appropriate exercises with the limbs with vocal accompaniment, either in singing or recitation.

*School Committee.*—REV. JOHN D. SWEET, REV. J. G. D. STEARNS, DR. F. E. BUNDY.

### BRIGHTON.

We have before, in our reports, called attention to the importance of prizes, to excite the ambition of the members of our High School. The successful results of one experiment, made by the liberality of Mr. Winship, have already been reported. We call attention to the matter again, in the hope that it may induce some of our wealthy citizens to erect a monument to their memory, and promote the cause of education in the present and in future generations, by securing to the town, a fund for the presentation of prizes for the highest attainments in some of the branches pursued in our High School. There is needed, too, a higher appreciation of a college education. We are so near to one of the best colleges on this continent, that the sons of our residents can board at home, while they are pursuing its course of study and reaping its benefits. And yet there are very few of our youth who avail themselves of this convenience and advantage. The establishment of a High School in any community has always elevated and improved the Common Schools; and there can be no question that if at each commencement of Harvard University a class of at least a dozen young men were admitted to the college course from our High School, the improvement to the school would be rapid and apparent.

Many of our citizens have an abundance of means to send their sons to college; but others have not. The college itself is liberally endowed, and offers a helping hand to those who are good scholars, but have not money. But there are many applicants for the funds of the college. We repeat, therefore, the suggestion, that our citizens should raise a fund sufficient to endow scholarships in Harvard University, so that each year the young man from our High School, who shall pass the best examination of the class fitted for college, may receive the benefits of a scholarship during his collegiate course. Thus the town might have four students—one in each class—in college perpetually. The benefits to the school, to the town, and to the world, from such a provision, stretching on as they would, through years and generations, can scarcely be measured. We commend this to the earnest attention of our wealthy citizens, that it may be remembered when they make their wills, if not before.

The course of instruction in the High School is as follows :—

**FOURTH CLASS.—*First year.***—Arithmetic—Greenleaf's Common School (continued.) History of the United States—Quackenbos's (begun.) English Grammar—(S. S. Green's Parsing and Analysis.)

**THIRD CLASS.—*Second year.***—Arithmetic—Greenleaf's Common School (completed.) Algebra—Greenleaf's Elementary. Book-keeping—Mayhew's System. General History—(Worcester's Introductory—Feudal System, Crusades, England, France.) Natural Philosophy—Quackenbos's. French—Robertsonian System; Earnst's Series; Modern Publication.

**SECOND CLASS.—*Third year.***—Algebra—Greenleaf's Elementary (completed.) Geometry—Introduction to Geometry, and Science of Form. General History, Ancient—Worcester's. Physiology. Zoölogy—Ware and Smellie's Philosophy of Natural History. Botany—Gray's How Plants Grow. French—Continuation of Second Year's Course of Study.

**FIRST CLASS.—*Fourth year.***—Mathematics—Geometry. Rhetoric—Quackenbos's. Chemistry—Youman's. Astronomy. French—Continuation of Third Year's Course of Study. Constitution of the United States—Sheppard's Text-book.

**CLASSICAL COURSE.—*First year.***—Latin Grammar, Andrews' and Stoddard's; Latin Reader, Andrews'. *Second year.*—Cæsar, Andrews' or Hanson's; Greek Grammar, Sophocles'; Greek Lessons, Sophocles'. *Third year.*—Virgil; Anabasis, Crosby's. *Fourth year.*—Cicero, Hanson's or Folsom's; Iliad (three books;); Ancient Geography.

**GENERAL EXERCISES.—*First year.***—Writing; Payson, Dunton, and Scribner's Writing Books. *Through the course.*—Reading, Spelling, Composition, and Declamation.

*School Committee.*—RALPH H. BOWLES, J. P. C. WINSHIP, C. H. B. BRECK.

## CAMBRIDGE.

In their last report the school committee announced that if the prevailing high prices of the means of living should continue, the salaries of teachers, which had been very moderately increased, would require to be further raised. This has been done. Nothing could be more obvious than that our teachers could barely live on their pay. We had express evidence that some of them could not do that. The female teachers have, many of them, been subjected to a sort of dependence on favor, most humiliating to their self-respect, and tending in several ways to diminish the respect felt for them by their pupils. Besides intellectual and moral fitness, we beg to observe, cheerful spirits, an independent position, and a decent personal appearance, are necessary for a teacher; and these are incompatible with such salaries as our female teachers have been receiving. While upon this point, we wish to say a word about a rather delicate matter. Elaborate elegance of dress would be unsuitable for school work. A beautiful taste is somewhat uncommon; but a neat and lady-like appearance is a thing next to indispensable in a female teacher. Without this, she must fail of a considerable part of the influence she should exert. Is it not most impolitic to set the pay of such a teacher so low that she cannot possibly do herself justice in this respect? But we have no occasion to assume the tone of apology or of remonstrance. The public, so far as we know, notwithstanding the severity of its burdens, has fully acquiesced in the justice of what has been done for our teachers, and we doubt not that the consequences will appear in an agreeable way.

The High School always occupies, and rightly, a large share of the attention of our citizens. The new school-house continues to give entire satisfaction, and is justly an object of admiration to all who inspect it. The whole number of pupils is nearly the same as last year, and the fourth class is, at the present time, a little larger than the whole number which were admitted in September, 1864. Eight boys entered Harvard College at the last commencement, and the number preparing to enter college next year is also eight. Only twenty-one, or less than one-fifth of the class admitted this year, chose the "shorter course." A slight change has been made in the scheme of study for the first two years, adapting it better to the requirements of those who can remain only that time in the school. The only important feature in this change is the substitution of French for Latin. The name "Shorter Course" is now given to a course of three years, for the faithful accomplishment of which a diploma is now to be awarded, which was not done before. It is to be borne in mind, however, that the interests of those who propose to pass but two years in the school are in no way sacrificed; on the contrary, they are favored.

Our schools are now so numerous and require so much attention, the unsettled questions pertaining to methods of education are so various and so pressing, that it would be of great advantage if a general superintendence could be assigned to one competent man. A man of great activity would be needed for the execution of one part of such a duty, and large information and good judgment for another part. The duties of such an officer would be, for example, what is required of the Superintendent of the Public Schools of Boston: that is, in general terms, to study the Public School system, both of America and of foreign countries, and suggest improvements in our own; to obtain a personal knowledge of the condition of all our Public Schools, with a view to bringing all of them as nearly as may be to an equal standard of efficiency; to advise the teachers and the school committee on the best methods of instruction and discipline; to contrive means for bringing under instruction that large number of children which, in a place populated to a considerable degree by foreigners, will always seek to evade it, or be deprived of it by their ignorant parents; and to consult with the proper agents of the city government as to the building and bettering of school-houses, and the methods of best securing the health and comfort of pupils and teachers. Such an officer, supposing him to be possessed of the requisite qualifications, would undoubtedly be of very great use. School committees, granting them to be always constituted of the best materials, are constantly changing. If a man who is busily occupied undertakes to do all that he can to be useful, he commonly finds the labor too much for him, and (supposing him not to be dropped by his fellow-citizens,) soon retires. The fair performance of only the routine duties of the place demands in Cambridge the devotion of a great deal of time. This time should be and is most cheerfully given, but a great deal more time would be required of him who would thoroughly master the subjects with which he has to deal,—in fact all his time. We think, therefore, that we cannot better make up for the deficiencies of which we are conscious ourselves than by recommending to our successors to consider at once the expediency of establishing the office of Superintendent of Public Schools. While making this recommendation we must call attention to the exceeding importance of making no mistake in the selection of the man, if such an office should be created. From the nature of the case, the value of such a superintendent depends much upon the time he continues in his place.

The very young children of poor parents require peculiar consideration. Some of us think that children of five or six cannot well bear strict daily restraint for as many hours as they have years. Nevertheless, such children are very frequently not as well off at home as in a school-room. Their parents are often away, they are exposed to cold, or to bad air, or to accidents. Might not such children be made very happy and comfortable,

and at the same time be learning something,—good manners, say, and orderly ways,—if they were kept separate from older ones, and treated in a much freer way; spending all the afternoon hours, perhaps, in learning to use their powers of observation (“object learning,”) in singing, especially while in motion, and in other employments usual in what are called *kindergarten* schools? Some of our teachers treat the younger children somewhat after this fashion. We have been glad to see beads and picture-books, as well as slates, employed in considerable quantities for their amusement. But in most cases we have observed that the alphabet scholars, when tired of their slates, have nothing to entertain themselves with but their legs, which they twist about until posturing ceases to afford them relief. Yet as long as children of five and six are mixed up with older scholars, they must be kept tolerably still. Separated from others, they might be treated more according to nature, and yet kept under beneficial care and control. What has been said of children of five and six years is true in due degree of those of seven and eight. The simple apparatus which would be needed for a modified *kindergarten* system, would, of course, be supplied at the public expense.

*School Committee.*—J. WARREN MERRILL, *Chairman, ex-officio*; FRANCIS J. CHILD, HENRY W. MUZZEY, CHARLES A. SKINNER, W. W. WELLINGTON, JAMES F. POWERS, JOHN B. TAYLOR, AUSTIN J. COOLIDGE, SUMNER R. MASON, JAMES R. MORSE, C. W. ANABLE.

### CHARLESTOWN.

In closing our report, and passing over to our successors in office the trust confided to us by our fellow-citizens, we advert with peculiar pleasure to the fact that Charlestown was the very first place in the country that made an appropriation for Public Schools. Charlestown is justly entitled to the honor of having originated that system of popular education which has become the pride and glory of so many States of the Union, and is destined to become the pride and glory of the whole land; indeed, whose benign and ennobling influences will, we believe, eventually bless all lands. The first settlers of this peninsula were among the most intelligent and the wisest men of their time. They constituted the church and the school, the foundation stones of all social, civil and political institutions. In their estimation, intelligence, virtue and religion were absolutely essential to the welfare of the people. In organizing society here they gave to religious institutions the place of prime importance. But they did, by no means, hold to the doctrine that “Ignorance is the mother of devotion;” and hence they at once provided liberally the facilities for education. They established the school and the college, and affixed to them the seal, *Christo et ecclesie*, regarding education as essential to the prosperity of morality and religion. The progress of civilization and enlightenment since their day



has illustrated the wisdom of their course. Washington gives it his weighty sanction when he calls religion and morality "the great pillars of human happiness," the "firmest props of the duties of men and citizens." The most enlightened patriots that our country has known in all its history, those who at the present time are most efficiently promoting its welfare, approve of the course of our revered ancestors, and regard religion and intelligence as the very life and soul of our civilization, the security and glory of our republic. It has been and still is true, that, in the endeavor to plant educational and Christian institutions of the New England type in all sections of our great country, "religious zeal is perpetually warmed by the fires of patriotism." Favored with such an ancestry, it is not strange that the people of Charlestown, in their successive generations, have been distinguished for their interest in the cause of popular education and for the generous provision they have made for the support of Public Schools. Let the present inhabitants of this place of historic and heroic renown, be inspired with such an enthusiasm in the same great cause as will honor the memory of those into whose labors we have entered. It is a fine expression of Macaulay: "A people which takes no pride in the noble achievements of remote ancestors will never achieve anything worthy to be remembered with pride by remote descendants." It becomes us to remember that towns and cities, not only in New England but scattered over a large extent of our country, are nobly vying with each other in efforts to elevate their schools to the highest degree of excellence. They are availing themselves of the results of the experience of the older towns and cities in regard to the construction of school buildings, the methods of conducting schools, and all that pertains to education, and are making laudable efforts to improve upon these results. Let us, in this home of Free Schools, not forget, that, if we would maintain the honorable position which this place has enjoyed in the past, we must put forth untiring and earnest efforts for the improvement of our schools. The schools of Charlestown must not, in any respect, be allowed to take a place second to those of any city in the land.

*For the School Committee—JAMES B. MILES.*

### CONCORD.

There has been, in later years, a manifest tendency exhibited on the part of our instructors to teach more thoroughly and intelligently. The constant discussions upon the right methods of teaching, which have absorbed the time of Teachers' Institutes and filled the pages of educational journals, are now bearing fruit. And perhaps our Normal Schools have done no better work than to impress upon the minds, not simply of their own graduates, but rather of the whole body of Massachusetts teachers, the important truth that real education does something more than fill the mind with a mass of

unconnected and undigested facts; that it gives the mind mastery over itself, and so over every branch of human knowledge with which it chooses to grapple; that it furnishes such a wholesome development of the intellectual powers as shall enable us to see all facts in their true meaning, just relations and proper uses. Your committee believe that this town, and all the towns of the State, have better schools and better teaching than they had twenty years since; and better, especially, in this respect,—that there is an effort, at least, not only to load youthful memories but to unfold and discipline youthful powers. They do not wish to make invidious distinctions, else they could point to schools in our own town where arithmetic has been so taught that the children can do far more than perform the few or many sums contained in the text-book,—where they really understand the science of numbers, and can solve intricate problems which are new, at least in form, to them, and which have conditions to which they are unaccustomed. They could point out schools where the reading is so clear, natural and expressive, that it furnishes convincing evidence that the pupils understand that the purpose of reading is to convey vividly to the hearers the ideas contained in language. They could point out schools where children have intelligent ideas of geography, clearly comprehend what great natural objects are described by the words rivers, mountains, oceans, gulfs and the like. All this is progress in the right direction. We want more of it; more and more awakening of real intelligence in the pupil's mind. Parents and committees alike should demand of the teachers, in the future, reality as well as appearance of advancement.

And in this connection, your committee would call attention to an injurious tendency, promoted too often by parents and not sufficiently resisted by teachers, to advance children in their studies more rapidly than their years or real progress would warrant. Complaints are often made that certain children are overworked. Inquiry usually shows that, on account of their own ambition or that of their parents and teachers, or on account of the combined ambition of all three, such children are in rank far beyond their years. With the immature powers and strength of eight or ten years, they are struggling to surpass those who have the mental growth and physical vigor of twelve or thirteen years. No real intellectual advantage can come out of such a struggle, while the whole future health and happiness of the child is risked by the strain of such an unnatural contest. And your committee wish to record as their opinion, that, if a child was restricted to the study of reading and spelling until the age of seven or eight years, and was not permitted to enter the High School until he had mastered, in the most thorough manner, all the Common School studies, his knowledge at sixteen or seventeen years would be far more real and solid, and far greater too, than under methods which, for the time being,

may promise more brilliant results. The whole proverb, "hasten slowly," applies to nothing more clearly than the early processes of education.

While it is hoped that an efficient execution of the truant law may, in the future, prevent any of our children from acquiring habits of truancy and vagrant and vicious life, it must readily be admitted that such a law, unless it look to some measures of positive reformation, will not reach those who have become confirmed in such habits. We trust that many such cases cannot be found in our quiet town. But there have been such cases in the past. Very possibly some such now exist. What shall be done with youth who are just stepping over the line which divides innocence from vice? What can we do to save them? In England they have reformatories, chiefly under the support and control of private charity, but to a limited extent supervised and assisted by the State. These reformatories are industrial in their character, and aim not only to educate intellectually, but more especially to impress habits of industry. These reformatories have done an excellent work in saving many youth, of both sexes, who seemed to be on the road to utter moral ruin.

In the year 1865, our own legislature passed a law empowering the county commissioners to provide county reformatories. If such places can be provided, and if our commissioners can have the prudence and wisdom not to erect expensive and showy structures, but to build, buy or hire some plain substantial farm houses, situated upon secluded yet productive farms, where boys and girls who have fallen into vagrant habits may, amid the purifying influences of nature, be trained to intelligence, industry and virtue; if these conditions can be fulfilled, such reformatories will meet a great want. A child has so far fallen that he cannot be reached by mild means. He is an absolute nuisance. What can we do with him? Send him to the house of correction and the jail? To do so is to make him a confirmed criminal. Every humane heart shrinks from such a result. We simply do nothing, and, in the process of time, the child steadily settles down until we have one more vagrant or criminal, who gets his living out of honest people by craft and dishonesty. What we want is a home, a farm-school, which shall inflict no stigma on the character, and where there are no older sinners to teach every vile habit, and where unruly youth can be sent to receive a wise and saving discipline.

We trust that our citizens will favor the establishing of such a reformatory in Middlesex County. But by all means let us avoid stone and brick palaces, erected for display, and draining the purses of our people. The plainest of plain farm-houses, with a good barn and proper stock, the whole situated upon some secluded farm of 75 or 100 acres, is all that is needed in the way of location and buildings. And the outside expense should be \$4,000 to \$5,000. The establishment should be under the charge of a firm, wise man, a good farmer, who can teach his pupils all which belongs

to farm work, and an intelligent matron, who can instruct them in all branches of elementary knowledge. The experience of England confirms the suggestions of common sense, that reformatories, to do any good, must eschew all show and needless expense, and become plain, simple, practical places of work and discipline.

*School Committee.*—G. REYNOLDS, *Chairman*; L. W. BEAN, *Secretary*; R. W. EKERSON, LOUIS A. SURETTE, SAMPSON MASON, CYRUS CONANT, WM. D. BROWN, JOSEPH A. SMITH, WM. M. HOLDEN.

### FRAMINGHAM.

*The Management of Schools a difficult Work.*—The work of conducting the schools is a complex and difficult work. To him who has never taught school, it seems simple enough. To go to the school-room punctually at nine o'clock in the morning, hear all the scholars read and spell and recite lessons, and punish the idle and disobedient, till twelve; and ditto from one to four in the afternoon, is certainly a plain business; and to one who has "the gift" must be easy and pleasant. So say the many; so reason the majority. But this is the superficial view of the matter. This ignores the essential fact that the work of educating a child is more than hearing him read and recite, and punishing his faults;—that to do this work and do it well, it is necessary to study the child's disposition and habits, and correct bad, and instil good ones; that it is to help him in his studies when help is really necessary and for his advantage, and to teach him to help himself whenever he can; that it is to restrain too ardent natures, and to quicken the dull and indolent, not by blows and kicks, but by love and common sense; that it is to implant and foster a reverence for duty; to enlist the sympathies and the active powers in favor of truth and right, and thus furnish the child with the means of a useful and happy life, as well as to store his mind with knowledge. It is not so much to teach him, and fashion a character for him, as to help him learn, and guide and assist him in forming his own character.

Children do not feel the need of such training and education, because they are not yet out in the active responsible life where the trial comes; and they do not appreciate the efforts of those who would prepare them for this life. And here begins the difficulty of the work, with the child himself. He can form no intelligent estimate of what is required of him. Duty is a vague word to his inexperienced heart. Mature life is almost out of sight in the distance before him. The world of fact is a circumscribed spot; and the world of fancy is as airy as a dream. He has had no occasion to try his strength, and his courage, and his power of holding on. What few conclusions he draws are intuitive, not the work of extended reasoning. He is thoughtless, restive of restraint, trustful of himself, and forgets to-morrow the lessons of to-day. And the anxious labor of to-day

must be all gone over again to-morrow, with the added anxiety and discouragement resulting from to-day's failure.

There is a great diversity of capacity in children, in the perceptive, and reasoning, and retaining faculties; and also in the sympathetic and impulsive powers. And this wide difference of capacity, extending from an almost total want, to a precocious keenness, requires modes of management as various as the different individuals. The causes of the apparent deficiency are numerous, and need to be understood by the teacher. Perhaps the dulness results from bodily infirmity; perhaps from unwise parental training; perhaps from moral obliquity. And perhaps the quickness to perceive and learn is the result of an unhealthy, feverish mental state; perhaps it applies only to the mental powers, while the moral susceptibilities are inactive. Some children will do all they can, without special spurring; and some will not make exertion, under any impulses. What awakens a real interest in one, is powerless with another, and excites disgust in a third.

The nature of the work of education itself; and these diversities of capacity, and interest in study; together with the child's inability to appreciate the efforts made in his behalf, render the problem of school management complex.

And as a second element of difficulty, many persons essay to teach in our schools, who have never studied this complex problem; who have no true conception of what an education is; who are totally ignorant of this diversity of child nature. They themselves go through the form of an education, and then go into school as the mechanic goes into his shop, to use specific rules and particular tools, to fashion a given article. They have their plan devised, and they arrange the school according to this plan, and not according to peculiarities of character and existing wants of a given district.

Committees have not prescience. The selected teacher may pass a creditable examination in the branches required by law to be taught in our schools; and may exhibit no moral or social deficiencies; and may have reached a sufficiently mature age; and the committee may see no ground for withholding a certificate of approbation. But when he enters the school-room the essential deficiencies reveal themselves. He may be skilled in the sciences, but ignorant of human nature; he may be conscientious and upright, and yet have no faculty to impart information, or awaken a love of knowledge in his pupils; he may be nervous, or passionate; he may have no power to lead, to influence, to control. His motives for teaching may be strictly mercenary; he may adopt the profession because it is more convenient than any other; or he thinks it more readily gives him a good social position; or because his tastes run that way, just as otherwise he would choose to be a carpenter or engineer. He may have a laudable desire to do good; and yet have so indefinite a conception of the teacher's work

as to accomplish no real good ; or may mistake enthusiasm for an intelligent estimate of duty, or may substitute sectarian zeal for true Christian love.

And some teachers have an ill balanced character—striking excellencies, and striking defects, which either counteract each other, or lead off in a tangent. Perhaps they possess, either naturally or from careful culture, some single popular talent which takes with their pupils and with unreasoning parents. And though the committee may be aware of the real state of the case—aware that all the interests of the school, except the one, are suffering, yet their interference would be resented. The one shining trait dazzles and leads astray.

A third source of difficulty arises from parental indifference or interference ; though more often with us from the former than the latter. If new books are not called for, and their child is rapidly advanced from class to class, and into the High School, they are content. They are ready to assume that all is well, if no complaint is made to them.

What may be the child's habits in the streets, or around the school-room, or at school, they do not take the trouble to ascertain. Who his usual companions are, they do not inquire. Whether his acquirements are substantial or superficial ; whether he is making true advance in study ; whether his mind is expanding and maturing, and his sympathies are active, and his impulses noble ; whether he is growing susceptible in conscience and strong in duty, through his school advantages, are not matters of very anxious thought. When the teacher appeals to them to assist in mastering some wrong propensity, or restraining waywardness, they only say—in action, if not in words,—“this is what you are hired to do.” When kindly informed of their child's faults, perhaps they are offended ; perhaps side with the child against the teacher. And in general, they show no true sympathy with the earnest but sorely tried, and sometimes disheartened teacher. They seem unaware that every truly faithful and conscientious teacher craves the help and moral support of the parents ; and that the teacher who realizes no need of this support and sympathy, or spurns it, is essentially unfit for his position. In their experience the committee can recall numerous instances, where our best qualified and faithful teachers have failed to accomplish the high aim they had set for themselves, and left their position in despondency, only for want of active co-operation from parents. They have suffered the chagrin and discouragement of failure when they did not fail. They did their work well ; they discriminated wisely, and brought healthful influences to bear, and shunned no hard duty, and abnegated self. But the coldness, and perhaps prejudice of parents, re-produced in the children, constituted a weight which a young and sensitive nature could not carry, and was crushed. And it has happened in several cases, that such a teacher, transferred to another district, where the parents were wont to encourage and help, has had high success.

Some parents are disposed to exact for their own children, what is incompatible with the good of the school. They may demand that their children shall be advanced from a lower to a higher grade, or from one study to another, before they are properly fitted, and thus do an injury to the child, and embarrass the school. Promotion without fitness is always a double wrong, and generally inflicts a permanent injury. The child cannot do the work required in the higher department, and quickly becomes discouraged and vexed, laying blame on the teacher for long lessons, or charging favoritism, because others recite better and are commended for it.

Parents are to be blamed in this matter for fostering in their children the idea that they must go up when others go; that there is some disgrace attached to remaining in a lower department. Ambition to advance and excel is right, and may be turned to good account, and should be encouraged. But a wise discrimination should always be made. Merit should be scrupulously set before the child's eye as the ground of advancement; individual merit as a result of individual exertion, and not class merit. Classes are unavoidably unequal in merit. Some individuals acquire more readily; some have firmer health; some are necessarily detained from school. If an exact gradation be made at the opening of the year, it will not continue to the close. Some will shoot ahead, and others will lag behind. And to fall behind may not be the pupil's fault, may be nobody's fault. The parent should so fully understand the matter, from careful inquiry; and the child should be so influenced at home, as to feel that it is not his fault, if such be the fact, and to feel that no dishonor attaches to being left behind.

The parent who really desires his child's good, will not consent that he be advanced, till he is fully qualified to do all the duties of the advanced position. The committee have in mind numerous cases, where children of good natural abilities, but wanting in the habit of application, or from irregular attendance (the fault of parents,) have forced themselves forward when the class graduated to a higher department; or if rejected, have staid from school till the next graduation, and then smuggled themselves in; and thus have gone through the form of a course of study—who are yet wholly uneducated. They were dead weights in their several classes, tolerated from sheer necessity. They were thorns in the side of their teachers; and always shirked examination day. And they go into life, ignorant of the real principles and application of science; unused to master difficulties; unused to concentrated thought; unused to yield to the obligations of duty; pert, and proud, and jealous. And all from parental pushing, advancing without merit.

It should be said, that the evils here set forth, are limited in extent. In many of our districts, a correct public sentiment exists; parents sympathize with, and co-operate with the teachers; and cordially work with the com-

mittee, both in classifying and advancing the scholars. But in other districts the evil is rife. And the results are so deplorable, both to the individual scholars and to the school, that duty required this plain exposition.

*School Government.*—The experience of the past year has only confirmed the committee in the opinion, that the true secret of successful government of a school lies in the personal presence, and the personal character of the teacher. What he is, determines what he can do. His own obedience to right and duty, constitutes his power to secure like obedience in others.

Perhaps the first thing to which the pupil's attention is directed in a new teacher, is the expression of the eye. If it be a steady, intelligent, concentrated look, it conveys a world of meaning; if a fitful, downcast expression, its meaning is equally full, and readily translated. The child does not put his inferences in words, but he makes them, and they decide his plans. True courage, such as measures the real character of difficulties, and quietly overcomes them, or turns them aside, reveals itself in the eye sooner than in any other way; and so does cowardice. Some teachers can never look a fractious boy in the face: and a command or reproof without the eye to give it aim, never hits. Ability to read character is indicated by the eye; the glance of one seems to penetrate to the inmost soul, while that of another only touches the surface. So of comprehension of view: one sees everything—not an act, or a whisper, or a twist of the face escapes notice; while another sees nothing, not even the paper pellet that whizzes by his nose. All these things in the new teacher help make those first impressions, which are so potential in childhood; and they contribute essentially to fix the teacher's standing, and determine in advance, success or failure.

Perhaps the tone of voice and manner of speaking, are next in prominence. The low, clear tone and earnest manner carry the conviction of innate power; the high key indicates uncertainty or nervousness. The sharp, wiry tone indicates an imperious will; the hesitating and crowding manner shows indecision. Probably a command by a new teacher is best given in the form of an emphatic request. Indeed such requests are always agreeable, and effectual, when an order would be. Real kindness, and genuine sympathy reveal themselves in the tones of the voice. Nasal or guttural tones are either the result of natural defects or bad habits, and are apt to awaken aversion; and are commonly evidence of imperfect self-knowledge. A peremptory or sarcastic manner irritates, and provokes a retort, in thought, if not in words. A distinct utterance, in a natural, agreeable tone, always conciliates favor, and attracts the young. The tongue is the teacher's effective rod, and reconciler, as the eye is his magnet and battery.

Another trait, perhaps no less powerful to influence, is a calm self-possession, which imparts a quiet dignity to ordinary demeanor, and arms the



teacher for emergencies. A fit of passion in the pupil is best controlled by a quiet, natural manner. A punishment is tenfold more effective, if inflicted without excitement, and in perfect good temper. A gentle, pointed reproof is the one that cuts to the heart. In dealing with the multiform diversities of character and disposition in the school-room, nothing is more potential than this perfect self-control, and ready command of resources. And one can never command his resources, unless he has entire command of his feelings and temper; unless the habit of self-control is become a second nature to him. A child is quick to detect any careless word, or unrestrained feeling, or impulsive act. And the loss of respect instantly follows an ebullition of temper. The charm of power is broken. Some teachers have the unfortunate habit of carrying all their ailments and disappointments into the school-room, and inflicting them, at second hand and in an aggravated form, on the assistant, or the classes. The innocent children have to suffer toothache, and neuralgia, and corns, and laudanum, day after day; and the sin of one is literally visited on the whole school. Some teachers seem to take comfort in thus transferring their own blisters.

Downright earnestness in doing things, has great influence over scholars. This life of motion, and thorough interest in duty imparts itself to them. And where it is not of the boisterous order, its inspiration is most happy. It carries a conviction of value, of steady purpose, of heartiness. It makes school labor a real practical work, a means to an end; and that end a precious acquisition. It so enlists and quickens the energies, that hard study becomes easy, and long problems become plain, and the three hours seem short. The daily example of such a teacher consecrates the school-room to its proper use; to the high and holy purposes of mental and moral culture; to growth in true excellence and power.

The refinement of true culture throws an indescribable charm over school duty. This is not so much a distinct trait, as a combined result of all excellent traits. It is not acquired by special effort, and cannot be defined and taught. It is the fruit of thorough self-knowledge and self-constraint; of thoughtful study and mature reflection. It is a working of the generous impulses and noble purposes of a manly nature; of will under control of reason; of true sympathy directed by quick discrimination, and all actuated and consecrated by the spirit of love.

As these personal traits are but emanations of the inner principles and purposes which constitute individual character, perhaps it is not necessary to dwell long on this second element of the teacher's influence. Perhaps a strictly accurate line between character and manners would be out of place in such practical suggestions as we would here embody; it certainly is not attempted. Character is however, in reality distinct from manner and expression, for these may be borrowed or counterfeited; but that has intrinsic value, which constitutes the man, which will in the end disclose

itself. And perhaps it needs to be added, in this connection, that a teacher's power is really twofold; that which he exerts as a man, to enlist interest and command respect; and that which he exerts as a scholar, to awaken mental inquiry, and direct the acquisition of knowledge. The two are intimately associated, and in symmetrical and balanced characters, each is lost in the other. The two united, make one. But they are separable; and sometimes one is wanting. We sometimes have teachers in our schools who are not loved, and who command no cordial respect for the gentle and manly qualities; who nevertheless, from thorough scholarship and strength of will, secure obedience, and maintain order, and make their pupils learn. Such cannot of course, promote the true education of a child; cannot quicken and elevate what is pure and noble in the moral nature, because they have no nobleness of moral nature; cannot themselves appreciate the delicate sympathies and gentle emotions which give a charm to life. All the social qualities and moral susceptibilities of the pupils take their own growth, or become stunted. It need not be said that there must be a fatal defect in such an education. And yet such teachers can make scholars; can train the intelligent to exertion, and make the pupils keen to analyze, and strong to remember. And their training will probably insure that strength of will which makes its way in the world, though it may be an erratic way. Probably, however, such deficiency of moral sensibility should be deemed to be a real disqualification to teach.

Assuming then that the two classes of qualities are essential to true success, we proceed in our specification.

A quick mental discernment and the habit of analysis, give a teacher the means of direct influence. This enables him to detect motives of conduct, and distinguish mere heedlessness from intentional disobedience; to judge what kind of home influence prevails, and how far this should be ignored or sustained; to determine the quality of a child's effort, whether it be sincere or pretended, whether fitful or sustained; and to judge of his performance,—for sometimes a half-learned lesson deserves commendation and encouragement, and sometimes reproof; and sometimes a perfect lesson deserves no credit. Each child should be judged by himself; should have credit for real solicitude, and for trying, as well as for high success. Where it is possible, classes should be graded exactly by capacity; but it is not generally possible in schools. Hence the necessity for individual discrimination. Some persons seem to possess this ready discernment by intuition, while to others it comes only of long and earnest study, and thoughtful observation.

But the value of this element of character lies mainly in doing exact justice to individual scholars. It commands the approval of their judgment. They feel safe from injustice in the teacher's decisions. The teacher's power to attract and direct his scholars—to win confidence and mould

character lies in the possession of a guileless and fearless heart, which imparts to words and actions entire sincerity and truthfulness, which is seen to be the moving force of his own daily life. Perhaps the term open-hearted expresses what we mean, more nearly than any other single word. Everything like concealment and double dealing is detestable to frank and generous childhood. Everything like hesitancy and parleying with truth is destructive of integrity. A teacher to be loved and confided in, must be willing to be seen through; must carry the frankness and candor of childhood, coupled with the wisdom of manhood, into all his plans. This applies equally to established rules of conduct, and specific promises and threats; to methods of instruction, and the setting forth of motives; to leading, and driving. Its natural promptings find utterance in pure and noble words, and induce unselfish decisions, and lead to manly action. It is equally an appreciation of sincere and generous acts, and detestation of wrong and meanness. And the detestation reveals itself, not in rigid rules and severe penalties, so much as in hearty and spontaneous dislike; a rising up of the soul against duplicity, and falsehood, and the shirking of duty. A true heart craves truth, as the stomach craves good food. Sincerity is satisfied with nothing but sincerity. Like demands like. The love of knowledge demands study; full sympathy with obedience demands obedience. Viciousness and meanness are out of place in a school, as a bit of flint is out of place in the eye, and both cause irritation and pain till they are removed.

So fidelity to duty in a teacher is his best motive to induce a like fidelity in his pupils. If he will do his whole duty, whether he receive credit for it or not; whether a failure would be detected or not; whether he feels like it or not; if he will do the unpleasant things as earnestly as the agreeable, inflicting deserved punishment without respect of persons, and with exact regard to desert, he has a sure guarantee that the majority will work with him, and the exceptions will somehow slough off. It should be distinctly stated that what gives force to goodness and fidelity, is the bold purpose, the fearlessness of conscious rectitude. They enlist regard; this stirs to imitation; they induce right conclusions; this impels to action; they show what duty is; this insures the performance of duty. Where sincerity and fidelity exist, without strength of will, the result is a mere negative character; symmetry without beauty, without life. The force of will imparts vitality; gives the impulsiveness and strength which lead and control. And when the will is under constraint of sound judgment and real kindness, yet actuated by duty, the result is moral power.

True scholarship is the teacher's reliance to insure hard work and progress in study. Literary qualifications are essential to the government as well as to the instruction of a school. And other things being equal, the higher the order of learning, the more successful. He must be thoroughly

familiar with the text-book in use, which is the scholar's chief guide, where he gets the definition and rules which are to be stored in the memory. He must be able to teach that particular text-book : and he must know the science itself, in its principles and their application ; and must have an opinion as to the best method of stating and illustrating those principles. It is not necessary that he take pains to criticize what he may deem defects of statement in the treatise in use, and take especial pains to exhibit his independent opinions. It may only confuse the mind of a young learner, and may not establish his own superiority. It may be consistent with a desire to show off, which argues shallowness of learning. The large, full ripe fruit bends the pliant branch, and ripe scholarship makes the possessor humble and teachable, rather than arrogant. But he who would command respect from learners, even from young children, must know fully and accurately what he teaches ; must have such mental discipline as to appreciate the difficulties and doubts of the youthful mind, and be able to direct to a solution, where a solution is possible. He must have learning, and have his learning at command, and have the faculty to impart it in a clear and candid manner, suiting his illustrations to the diverse capacities of his class. He must himself love knowledge, and have the power to *awaken a love of knowledge* in them.

This is one of his first duties as teacher. The possession of, and the parade of even sound learning, do not of themselves constitute a successful and attractive *teacher*. Rules and facts and conclusions, spread before a child or crammed into his memory, do not nourish the mind, and do not of necessity stay in the memory ; do not necessarily become real mental possessions, or promote mental culture. A healthy appetite for knowledge must crave it—either a natural or acquired appetite. And the teacher's earliest care is to discover or create this healthy taste for learning. And most teachers find this a difficult task—where it is undertaken as a task. To hold up in set terms the beauty and excellence of knowledge, or the intrinsic value of an education, will not do it. No mode of abstract reasoning, or form of argument, or personal appeal will do it. A true love of knowledge in the teacher must impart itself to the pupil. The value of an education must be seen in the teacher's own spirit. It must exhibit its refining force in his temper and plans. It must show its superiority, in his matured wisdom. It must come to the child's understanding as a living, warming element of character.

But this awakened love of knowledge, thus essential to profitable study, is not all that is requisite to healthy progress. A teacher must truly sympathize with the child in all his mental steps, his hesitancy to strike out into the new line of thought, his crude attempts, his blunders, and his failures, as well as his successes. He must have patience with the slowness of his comprehension, and his treacherous memory. He must be ready to

repeat his explanation, for the twentieth time, if necessary, where there is an honest effort to profit by it. The accuracy and exactness of knowledge determines its value. And the greatest pains is requisite to secure undivided attention, and logical habits of thought, and precision of statement in recitation. But to exhibit impatience at unintentional blunders, the exposure of every lapse and mistake, and sharpness of criticism, may not be the best method to secure accuracy—certainly in the early period of study. The very exactness and severity of criticism may induce a fear of failure, which will lead to failure; or may turn the mind to the little niceties of learning so as to unfit it for taking in its broader principles; or what is more likely, may produce discouragement and disgust in ordinary minds. Some teachers appear to take pains to make recitations unpleasant, by sharp criticism, by framing questions to blind, by quibbles and taunts, as they say, to sharpen the wits. Here again the scholar separates himself from the man. He forgets his own childhood, and the anxiety and dread of his first recitations in grammar and Colburn. A sympathy with the learner, and a hearty relish for the truths taught, will modify his estimate of the child's performance, and enable the teacher to give just credit. He will consider that a given rule or fact does not have the same weight to different minds; does not awaken the same interest, and does not carry the same conviction. A logical demonstration is more conclusive than a mathematical, to some minds, and is easier remembered. A historic fact appears in one light to one, and in a different light to another. One takes up natural science with avidity, and another the dead languages. The learner's predilections, and previous habits of study are important, in determining the merit of a given performance.

And this shows the importance of developing and fostering *individuality* in scholars. It is a plain duty to study the natural bent and preferences of children; their manner of committing to memory, and the process by which they recall committed lessons; and to take advantage of these peculiar habits and aptitudes in imparting instruction. Even if the natural bent needs bending, and the habitual choice needs a new motive power, it is best to effect it gradually, and through the child's voluntary agency. No judicious man of enlarged views will insist that every scholar shall be cut to his pattern; shall prefer his style; shall see with his eyes, and reason with his mind. Plain duty as well as regard for the child's mental growth, and moral strength, will require that he rather encourage him to use his own powers and methods—correcting what may be radically wrong; that he encourage him to think independently, to judge of evidence, to follow out processes of reasoning for himself, and to say things in his own way. The other method cramps, and makes a mere automaton; this introduces the child to himself, and leads to self-reliance, and fits for influence.

And this fact of a natural or acquired preference for a particular study, or the exercise of particular faculties, has another application. The teacher has his own favorite study,—some branch which he loves to teach. And the rapid and sure progress which his classes make in this, demonstrates several points that have already been made. For an equal interest in other branches would give the same zest to his instructions, and secure the same rapid progress. Perhaps it is impossible, where one must parcel himself out among a dozen sciences, to be a whole man to each. But the nearer he comes to this, the higher will his school rank. A thorough preparation of each lesson, in advance of the class, will supply some deficiency of natural taste. In actual experience we find one school exhibits superior excellence in reading, another in grammar, another in arithmetic; each depending on the teacher's special fondness for the specific branch. Some unfaithful teachers neglect or slur over the disrelished study; and some lazy teachers insist on using only a particular text-book—the one probably in which they studied, so that they can get into the old familiar ruts.

And we are led in this connection, to state another important inference, viz.: that children should not be sent to school, till they are old enough to love some branch of study; till they become hungry for knowledge. There is a difference in children in this respect. In some, a taste for study develops early; in others later. But all forced study in an early childhood is an injury and an evil. Till the age of six, as a general rule, they should be amused at home, and allowed to grow, and get muscular strength by free exercise and sleep. This is the period of life in which to foster the gentler and emotive faculties; to unseal the fountains of love and reverence; to implant a fear of wrong and falsehood; and instil the first principles of duty. And this is the parent's duty and high privilege. The lessons are best learned on the mother's knee, sanctioned by a mother's authority, and sanctified by a mother's love. There is a time in every intelligent child's life when he wants to learn his letters and to read. This is the time to teach him, or give him the means to teach himself. And when he begins to crave a knowledge of books, then first send him to school; for then first will school instruction and school constraint do him real good. Much of the listlessness we see in schools, arises from children being forced to school too young; before there was any desire for knowledge, and before they can set any true value on what is acquired. What they learn is not digested. Education is not a development, but a cramping process. A disrelish is acquired. Habits are formed which are fatal to strong, elastic mental growth. And it often happens, that the health is undermined, and lassitude, and impeded circulation, and feebleness are induced. This listlessness and mental indifference is an effectual bar to mental culture. Part of it arises from the cause just named; and part of it from the unsympathetic nature of teachers. They are performing a

duty—faithfully, as they understand it: but still a set duty, a required task. They are only turning a crank, to order, when their proper work is to lead and guide, and inspire; to unfold and strengthen active powers and sensibilities, and introduce the child to life and manhood.

*Mode of Conducting Recitations.*—One of the marked differences in teachers, and one of the elements of success and failure in teaching, is the mode of examining classes. It is a matter which probably never receives a serious thought from many teachers; they hardly know that there is any special importance attached to it, or that there is a radical difference in modes. They put questions,—perhaps reading them from the text-book, perhaps using their own language,—and if a scholar answers the question, the lesson is marked perfect; if he fails to answer the question, it is marked imperfect. And at the public examination, they are careful to ask such questions as they are certain will be readily answered. But to frame a question, or suggest a topic, so as to draw out a scholar's real knowledge of the subject, and test his preparation of the assigned lesson, is an art in which few are perfectly skilled; it requires mental acumen, and a nice discrimination of the force of words, and an intimate and fresh knowledge of the lesson to be recited by the class. Much of the success of some teachers in carrying forward classes rapidly and thoroughly, is owing to peculiar skill in putting questions, so that the child's ideas are drawn out, and the main points of the subject are made clear and impressive, and are firmly grasped by the mind. For it should be considered, that the examination of a class is not more to find out what each pupil has learned, than to help him fix that knowledge indelibly in memory. Skill in questioning does more to assist comprehension and memory, than explanation and illustration; for these are the workings of the teacher's mind, and only illuminate the mind of the learner; while the pointed question arouses and concentrates the pupil's own thought; and this concentration and effort stimulate and strengthen the memory.

Some teachers frame their questions so as to imply the answer. It costs no mental effort of the pupil to recite, and after he becomes familiar with the practice, it requires no very careful preparation beforehand. A simple yes, or no, or at best a brief enlargement on the word which the teacher makes most emphatic, is all that is necessary. Such a recitation is a positive injury; no clear thought is evoked, and a listless, slovenly habit of mind is induced.

Some teachers ask questions at hap-hazard; they have not familiarized themselves with the lessons of the day; and at the moment their thoughts are busy with another subject. They neither know precisely what they ask, nor give heed enough to know precisely what the answer is; or they use a term of ambiguous meaning, and then reprove the scholar for not giving the answer that happened to be in their mind, when perhaps he

gave a correct answer to the question as they worded it, or as he understood it. If the teacher's mind should be concentrated and clear anywhere, it is before his class. The demand of simple justice settles this point.

Some teachers frame questions so as to *catch* the scholar; and then ridicule his honest answer. Some teachers, without intending it, always manage to confuse the class. A question is asked, and the pupil commences to answer; but before he can develop his thought the teacher interrupts him, to criticize a word or phrase he has used, which may not be strictly correct, though as the boy uses it, it conveys the right idea. The pupil should be allowed to give his full answer, in his own way; and that answer should have its just credit. If it be faulty, let the specific fault be kindly stated. Carelessness and blunders deserve censure, and after due forbearance, should not be tolerated. But let the censure fall on the guilty individual, not on the class. Everything like fault-finding, and ridicule, and exposing innocent deficiencies, and sharply cross-questioning a timid, embarrassed child; and everything like a show of personal dislike or favoritism, are ungenerous and wicked.

The point to be brought out should be distinct in the teacher's mind; and exact precision of language should be studied, to develop this point. And this study will be found to be a valuable mental discipline. The pointed question, will indicate the need of a like specific answer, and will set the child's mind to work to frame such an answer. Indeed, brevity and clearness should be insisted on as part of a satisfactory recitation.

*School Committee.*—J. H. TEMPLE, S. D. ROBBINS, GEO. E. HILL.

## GROTON.

*Tardiness.*—Your committee would not feel justified in closing their observations upon general matters without alluding to that most serious of obstacles everywhere met in Common Schools, the evil of tardiness. Such evidence of tardiness and absence as are recorded in the registers of the Common Schools, are not to be found upon the books of any Private School or Academy. This being the fact, it is apparent, that tardiness in the Common School arises from a want of appreciation either of its great evil or of the value of Public School instruction.

Were it the tardy pupil alone, who is injured by entering the school ten, fifteen or twenty minutes late, even then, as guardians of the Public Schools of the town, your committee would be under obligation to remonstrate against it, as a positive hindrance to the progress of the individual pupil. But it is the whole school that is made to suffer by the tardy member, who, in his hurried entrance to the hall and school-room, draws all eyes from books and study, and is absolutely the cause of wasting from five to ten minutes of the brief three hours' session, before recovery is established and the legitimate work of the school-room can again proceed.



A tardy pupil may be a member of a class that has passed a recitation before his arrival. If so, he is one recitation behind; and he will likely keep one recitation behind for the term, and thus be a heavy weight upon his class.

Parents, as a general thing, can remedy this evil, and it should be remedied. It is their boy or girl who is losing the rich opportunity of improvement, on account of tardiness; and it is their money that is wasted by this interference with discipline and wholesome regulations.

Absence from school is but little worse than tardiness. Neither should be allowed by parents unless absolutely unavoidable. Would parents study the true interests of their children, and secure to them a foundation upon which to construct a true and Christian manhood, they would avoid detaining a child from school, except from absolute necessity, as they would guard him against contact with loathsome and contagious disease. How many of the child's errors and frailties he in after life may charge back upon father or mother, is a serious consideration, which may well awaken anxiety and stimulate parents to the most studied carefulness.

*For the Committee.*—DANIEL NEEDHAM, JOSIAH K. BENNETT.

### HOLLISTON.

*Home Influences.*—To make a successful school requires at least three co-operating parties—a competent teacher, faithful pupils, and a sustaining home influence. In its place, the latter is as indispensable as either. The instructor needs this encouragement. It is of the greatest value to feel that he can count with confidence on the support of parental authority in maintaining good order in the school; to know that his efforts to stimulate the mental activity of the young are there steadily encouraged. But more important is this to the pupils. Nothing demoralizes a scholar more rapidly and thoroughly than to find the home sympathies running with him against the teacher. If a boy or girl can take an appeal home from the teacher's authority, and have it readily affirmed—can secure the parent's feelings and voice in condemnation or censure of the discipline of the school, all the value of that school to such pupils is destroyed. That there is much carelessness here is undeniable. Teachers sometimes tell us that they meet the chief difficulty to success outside the school-house. We can easily believe the statement. Their methods are sharply criticized in the presence of the children whom they instruct. Their competency to fill their position is doubted or denied by those who may have taken small pains to examine the subject. In cases of direct collision between the teacher and scholar, the latter's part is sometimes hastily and violently taken, and, as it often proves, unjustly.

This is not to say, that teachers are not sometimes at fault, although, with the great care which is taken in their selection, the presumption and

probabilities, in any issue between scholar and teacher, are strongly the other way. But if it should be that the teacher is wrong, the redress sought should guard as much as possible against weakening the confidence of the scholars in those whose business it is to educate the young; against fostering a disrespect for school obligations and government. It is a grievous mental and moral injury for a youth to get set against school life and work and obedience, as something to be despised and hated; to acquire a chronic rebelliousness against it. Of all places in the world, that injury should not be inflicted in the home circle.

*Our Teachers.*—Purposes so elevated impose weighty duties upon our teachers. They must look upon their work as of the most honorable and engrossing character. They should prepare themselves for it, not only by the requisite mental discipline, but by the culture of pure affections, the habitual cherishing of high and worthy sentiments, the maintenance of a steady control over their own spirits, the eliminating from themselves of all personal drawbacks upon a thoroughly good influence and example. Nothing is too minute to be regarded in this self-training—from the correcting of the false pronunciation of any common vernacular word, where teachers trip oftener than they seem to be aware, to the filing away of whatever excrescence may impair their usefulness. This is not to attempt to bring everything to one and the same pattern. Every alive teacher will have an individuality of his own, and can best do his work in accordance with its inspirations. Unity of spirit here, as elsewhere, admits of much diversity of operations. We prescribe no undeviating routine, but wish our teachers to study their own genius, and the natures of those of whom they have charge, and adapt their methods to the work in hand, according to their best judgment.

We are satisfied that this is their endeavor, to a most creditable extent. If results are not perfect, they are positively, comparatively, and sometimes superlatively, good. This we sincerely avow. And we ask that these educators of our youth shall ever have that honorable and cordial regard from the public to which they are clearly entitled. Their work is often perplexing, always exhausting. They are more the friends and allies of the families for whom they toil, than the paid servants of the community. Theirs is one of the kinds of labor which can never be fully paid for in money. There is heart-work, as well as brain-work and muscular exertion in it, if it is done as it should be; and that must always find its compensation in something costlier than a treasury draft. Faithful and kind instructors should feel that they have the warm affection, the personal love of those for whom and for whose offspring they are spending their daily strength.

*School Committee.*—ORRIN THOMSON, W. N. BATCHELDER, J. T. TUCKER.

## HOPKINTON.

*Primary Schools.*—There has been no part of our school system in which more improvement has been made for the past thirty years, and perhaps no part susceptible of more improvement than in our Primary Schools, or in the instruction of Primary School scholars. In fact, thirty years ago, Primary Schools, or Graded Schools of any description had hardly begun to exist. The principle of the division of labor had not then begun to be applied in educational matters. But we fear that even at the present day, Primary Schools are deemed of too little consequence and fail to receive the consideration they deserve.

When about a year since, Governor Andrew was called to the presidency of Antioch College, some flippant contributor to the weekly press observed that "Gov. Andrew was a man of too high an order of intellect to waste his abilities in teaching boys," that "he was needed in the councils of the nation." Too high an order of intellect to teach boys! Indeed! And was this wiseacre aware when he made that sententious remark, that some of the greatest intellects the world has ever seen, found their chief delight in teaching boys? Socrates, Plato, Aristotle, Niebuhr, Arnold, taught boys—and were their talents wasted? Is it more ignoble to teach boys than to teach men? Does it require a higher order of intellect to build the steeple than to lay the corner stone? The idea is also common to many teachers, that the more advanced in study their pupils, the more honorable their position. But here is an unfortunate mistake, and our schools suffer in consequence. What position can be more honorable, more important, or demanding a higher order of talent or attainment than to first give shape and direction to the youthful mind? Washington's first teacher was his mother, but had she been a woman of limited capacity and ordinary attainments, would Washington have ever received an apotheosis at the hands of the American people? Now it is the province of the primary teacher, to instil into the mind of the child those ideas and principles which will mould its character for life. A great and almost fearful responsibility rests upon her. How important that she be qualified for the task. It is her part to stimulate attention, to arouse enthusiasm, to quicken observation, to encourage the expression of thought. How varied then should be the attainments of that teacher who undertakes these duties. How wide a range her reading should embrace. How intimate her acquaintance with nature. Especially is this the case since the new method of instruction, familiarly known as object teaching, is being adopted to a greater or less extent in our schools.

*For the Committee.*—H. L. PARKER.

## LINCOLN.

*High School.*—The number of pupils studying Latin has been larger than ever before. The study of the Latin language, if for no more than three or four terms, is of more value, as a strict mental discipline and an available addition to knowledge, than the same amount of study of algebra, geometry or chemistry. This statement may be challenged, but we believe it will bear examination. Language is a science as much as the mathematics, and a science that we make more constant use of than any other. The exact and critical study of language sharpens and stores the mind. And a good degree of mastery of this organ is essential to success in the pursuit of any branch of human knowledge. Comparison of verbal forms and idioms is an excellent discipline, and no exercise can develop power of accurate expression like translation from one language to another. The English language is so largely indebted to the Latin, that the study of that language assists very much in obtaining a more perfect understanding of our own.

In the business of education, the study of the mind itself is of the highest importance. Its conditions of growth and capacity to receive instruction, should be carefully noted.

Careful investigations have recently been made which show that it is impossible for children to fix attention, as is needful in any study, beyond a time much more limited than is ordinarily supposed.

Very young children cannot give attention to anything that they are taught for more than one or two minutes. From five to seven years the child can give attention fifteen minutes; at ten, twenty minutes; at twelve, twenty-five. A skilful teacher and an interesting exercise may secure longer attention, but it will be at the expense of succeeding lessons.

Children of ten to twelve exhaust their capacity of bright, voluntary attention, in four varied exercises of half an hour each, with an interval between them in the forenoon, and are able to give no more than half as much attention in the afternoon. Three hours in a day are as much time, then, as the scholars of this age in our schools can give profitably to their studies. If by any means more effort is obtained, it is at the expense of succeeding lessons.

Of course, the capacity for voluntary attention depends somewhat upon the physical vigor of the child, and the light and ventilation of the school-room. Experienced teachers, after the most careful observation, testify that the capacity of attention of the majority of the children attending the Primary Schools, is exhausted in less than three hours of daily instruction. Children that are several years younger, can only for a small portion of the five or six hours that they are kept in school, give any profitable attention to the exercises. These are well established physiological facts,

alluded to here because it is important that every teacher and every parent should understand them and bring their demands and expectations within the limits that nature has prescribed.

*School Committee.*—HENRY J. RICHARDSON, JAMES FARRAR, JR., WILLIAM FOSTER, SAMUEL H. PIERCE, J. DEXTER SHERMAN, WILLIAM MACKINTOSH.

### LITTLETON.

The days when teachers were few in number, and poorly prepared for their work, have passed away, and we have always at hand a number from which to select. They are of all grades; some with good natural abilities, improved by a thorough, systematic education; others, of very mediocre talent and inferior cultivation. From these we must choose one, and intrust to him the training of our children. And here a question of economy arises. Shall we secure a teacher for the least possible amount of money, and content ourselves with ordinary qualifications, or, shall we expend a larger sum and obtain a better man, one in every way fitted for the position? The better a teacher is qualified for his profession, the greater right has he to an ample remuneration. His education is his capital, and if, by faithful effort and honest endeavor, he has increased this capital and rendered it more valuable, he is fairly entitled to a liberal return. This principle is universally recognized, and our own action must be determined by it. A successful farmer purchases the best stock, the best seeds, the best agricultural implements; the good mechanic uses the best tools, and employs the most skilful workmen; the rising merchant owes his success as well to the superior character of his employes as to his own energy and tact. In every department of life, that is really the cheapest which pays the best in the end, not that which costs the least money at the outset. Nowhere is this truer than in educational matters. We desire our children to have well-trained and disciplined minds; we wish the better qualities of their nature to be developed and expanded; we are anxious that the music of their eternal existence should receive its first touches from a master's hand. A good teacher leaves the impress of his own mind on the easily moulded characters of his pupils. If he is thorough, they will be thorough too; if he is patient, they will be patient too; if he is enthusiastic, they will catch the spirit of enthusiasm; if he commands their respect and love, they will try to obey and imitate him. It is an old and homely proverb, that "as the twig is bent the tree's inclined," but there is a world of wisdom and philosophy in the saying. We cannot be too anxious in regard to the training which is given to those who, ere long, will be standing in the fore-front of the battle, while we, having fought the fight, shall have laid our armor down. Hence, your committee feel justified in recommending a liberal appropriation for educa-

tional purposes, assured that every dollar thus bestowed, will prove a far more profitable investment than railroad stock, or United States bonds, inasmuch as the interest will be paid, not semi-annually or quarterly, but daily; not in gold and silver alone, but in the more desirable riches of pure, upright, noble men, fitted to take an honorable position in the world, and to keep pace nobly with the march of time.

*Chairman.*—C. M. WILLARD.

## LOWELL.

*Superintendent.*—In so far as this is a report to the citizens of Lowell, it is proper that the school committee should express their appreciation of the influence and labors of the superintendent. It was not supposed by them that anything like a moral earthquake, or a great educational spasm, would signalize the change implied in the introduction of this officer. Nor was it believed that this would be desirable. The object was, rather, to secure a gentle, genial, but all-pervading and equalizing influence through the whole system of our Public Schools; an influence that would sustain and encourage whatever was well done before, and gradually, but effectually apply the needed remedy wherever there was a demand for amelioration or reform. And in this we have not been disappointed. Results are already clearly discoverable that satisfy us that a wiser or more profitable thing could not have been done for our schools. These results, highly as we esteem the office itself, abstractly considered, we ascribe largely to a rare combination of qualities in the superintendent whom it has been our good fortune to obtain. Mr. Phipps has now become well known to a large number of our citizens, still better known to our teachers and pupils, and best of all to the committee. Always courteous and unobtrusive in his intercourse with the board, we have yet found him unshrinking and conscientious in recommending whatever changes have approved themselves to his judgment, and in a high degree, timely and judicious in his recommendations. And so far as we can learn, there is among the teachers and pupils, and in the community, but one feeling in regard to him. Even those who have supposed that it would be better to have no such officer, have often expressed as much as this, that "if the office is to exist among us, the city is fortunate in the present incumbent." In this latter sentiment we concur. And we have no doubt that if his work is continued under as favorable auspices as at present, the citizens of Lowell will in a few years have more reason than ever to be proud of their schools.

*Decease of Hon. Elisha Huntington.*—The board have to lament the very recent decease of the Hon. Elisha Huntington, who, though not at the time officially connected with us, has rendered more years of service in the cause of education, and been called to a larger amount of public duty in Lowell, than any other man. His fellow-citizens have seen in him no other

ambition than to be found worthy of the trust that for some forty years they have, in one form or another, so spontaneously and so confidently reposed in him.

In every difficult and trying emergency, and in whatever has required special wisdom and fortitude, and a high order of talent, they have found him equal to the crisis, and superior to the ordinary weaknesses of public men. Incorrupt in all his character, faithful to God and to man, he has not been more honored by our city, than he has honored her. Happy the man who can leave in the public mind as pure and inspiring a record as his.

*Chairman.*—OWEN STREET.

The examination of all applicants to teach, except with reference to the High School, is confined too much, I think, to the minimum of literary qualification, and while it may satisfy the examiner that the candidates have a tolerably fair knowledge of "orthography, reading, writing, English grammar, geography, and arithmetic,"—such a knowledge, indeed, as is required of all the graduates from the Grammar Schools before they can be admitted to the High School, and in respect to which some of them pass a better examination than many of the applicants to teach; it cannot satisfy them of the "ability to give instruction" in these branches, and of the "capacity for governing," which are among the essential qualifications required by the statute. Too little regard, I think, is paid in the examination of candidates to this last named qualification, the "capacity for governing a school." It is true something may be inferred in respect to this, from the general appearance of the candidate, and with this most examiners seem to rest satisfied; but as the success of the teacher depends in so great a degree upon this "capacity for government," should it not form a more important feature in such examinations? and can anything supersede an actual examination, either oral or written, of each candidate as to his views of the principles on which a school should be conducted?

"It is of primary importance," says Mr. Mann, "to know whether the fundamental idea of government, in his opinion, is the will of the teacher, or the applause of the neighborhood,—which may be for one quality in one place, and for another quality in another,—or the good of the governed; whether, on the one hand, he would succumb to resistance and be driven away before rebellion, rather than to strike a blow; or, on the other, whether he would flout the docile, and be capricious towards the obedient, to prove whether there exists in them an unreasoning and unconditional submission to his claims of sovereignty.

"If a candidate has no views respecting the great principles on which the government of a school should proceed, the committee cannot affirm that he has a capacity to govern. If such a person has any capacity, it must be in

a latent state; but the committee must be satisfied, not of a possible or potential, but of an actual capacity; it must be in a developed state."

I regret, (as I had occasion elsewhere to say,) that so much reliance is placed upon the results of an examination confined to merely intellectual qualifications, and that other equally essential requisites for the successful discharge of a trust so potential for good or for evil in moulding the characters of the young, are either entirely ignored, or apparently regarded as of comparatively little importance. It is a too prevalent usage to appoint teachers without sufficient consideration of those qualities of mind and of heart, that knowledge of human nature, that aptness to teach, and that zeal and love for the work, without which the best intellectual endowments are worthless; and for want of these essential qualities a change of teachers is not unfrequently deemed desirable by those most conversant with the schools, although it is not a very easy thing to effect it. Very few of our teachers have been systematically educated for the profession, but have educated themselves as best they could, mainly by the process of experience in teaching, and this often at the expense of those placed under them. We would not intrust the construction of a building, or even the cutting of a garment, to persons who have not been educated with special reference to skill in these employments, and yet how often is the education of our children, and the development of their intellectual, moral, and physical character intrusted to those whose chief recommendations are their good personal appearance, necessitous circumstances, importunity, and a tolerably fair examination in some of the subjects which they have just ceased studying in the schools, and in which a retentive memory, more than a thorough comprehension of the subject, enables them to appear to better advantage. The graduates of our High School doubtless possess sufficient knowledge to meet the wants of the lower grades of schools, but from the wide range of study they have pursued, with no regard to a thorough and systematic drilling upon particular branches, so important in the preparation for the teacher's work, it cannot be expected that they will be properly qualified to communicate their knowledge, and to secure the most desirable results in the government of a school. It seems to me exceedingly desirable for those who wish to become successful teachers, to supplement the High School course, by the course of training and discipline which it is the peculiar province of the Normal School to provide, and I would earnestly recommend all such to avail themselves of the advantages of special training for their work which the wisdom and liberality of our State offer to them in institutions established for this very purpose. It might serve as an inducement to a much larger number to resort to these special schools of instruction, and so inure greatly to the educational interests of our city, if it were generally understood that, other things being equal, preference would be given to their graduates, and that none would be appointed teach-



ers of our schools whose attainments were not equal, or nearly so, in all respects to those possessed by these graduates.

*School-Books.*—It is in some respects a very wise provision of the statutes of the Commonwealth, that no change of school-books shall be made when the committee consists, as is the case in our city, of more than nine members, without “the consent of two-thirds of the whole number of the book committee, and the concurrent vote of three-fourths of the whole board.” The frequent change of text-books is greatly to be deprecated. It is attended with much expense to the city and to the parents, however favorable may be the terms on which an exchange may be effected. There are several incidental evils, too, connected with such a change, which must be too obvious to be particularized. Still it cannot be expected that in this age of progress, the same school-books should continue to be used from one generation of school children to another, if there are others possessing far greater merit, and it would be as absurd to refuse to introduce these, as it would be for the mechanic not to avail himself of all the improvements in the implements appropriate to his art which the inventive spirit of the age proffers to him. Changes in school-books, however, are not always improvements. The pertinacity with which some professional book-agents ply their art, and the arguments of various kinds which they employ, sometimes result in changes which, however much they may contribute to the interests of the publishers of school-books, so introduced, are far from promoting the best interests of the schools. It seems to me very desirable that from time to time the various text-books used in our schools should be carefully and thoroughly compared by a competent sub-committee with any new books on the same subjects, and that no intimation of any intended change be made to publishers or agents until it has actually been consummated, agreeably to the salutary provisions of the statute, by “the consent of two-thirds of the sub-committee, and the concurrent vote of three-fourths of the whole board.” I should recommend that whenever a change of books is decided upon, it should go into operation at the beginning of a school-year, and be made, gradually, with new classes only, thus avoiding the great expense attending such changes.

*Books for Poor Children.*—The practice of loaning books to the children of such parents as are unable, or refuse, to purchase them, is still continued, and with much pecuniary advantage to the city. In each of these books is placed a printed label, stating that “this book is the property of the city of Lowell, until paid for by the parent or guardian of the child to whom it is furnished;” that “it must be carefully used, and if not paid for, returned to the teacher of the school whenever it is called for.” It is especially enjoined upon the teachers to use every effort to induce parents to furnish their children with books, that none may apply to the city therefor, except those in absolute need. To this is added my own careful scrutiny of every

order for books to be furnished to children at the city's expense, which the teachers send to me for approval.

As the children thus supplied have the use of the books as long as it is necessary they should have, I do not see why this practice of loaning does not meet the requirement of the statute as really as if the books were given. It certainly is to the city a more economical arrangement, for the same books may be used by several children in successive classes, thus obviating the necessity for purchasing new books for every indigent child. In 1857 the expenditure for books for poor children was \$1,586, and for a series of years the average expense was \$1,112 a year. For the last two years, notwithstanding the cost of most school-books has advanced nearly or quite one hundred per cent., the expenditure for this purpose has averaged only a little more than one-half of this latter sum.

"No child under five years of age shall be admitted to the Primary Schools," is a very wise and beneficent prohibition of the board, and yet I have found in several schools quite a number under this age, whom the teachers had been prevailed upon to receive, though already over-burdened with numbers and with duties legitimately devolved upon them. Such young children serve to distract the attention of the others, and impair the discipline of the school, and this would be a sufficient reason for rejecting them, even if the teacher should not devote any time or attention to their instruction. It may in many cases be an act of kindness to relieve the mothers of the care of such young children, and it would doubtless be a still greater relief to them if they were allowed to send them at a much earlier period, but if under any circumstances it were deemed expedient to allow the rule to be violated, it certainly is not so when our schools are so full of those whose age entitles them to their advantages. If the minimum age for admission were six years, instead of five, I think it would be no less beneficial to those who would thereby be excluded, than to those who remain. The admission at an earlier period, in my opinion, exposes the little ones to serious dangers, mentally, morally and physically.

Aside from the more important advantages of a good penmanship in securing to a young man or woman such positions as clerks and book-keepers, often much more lucrative in consequence of it, which are constantly opening to them, I regard this acquisition as among the most essential in the education of all for the common, every-day purposes of life. How many persons, after great painstaking in deciphering the strange hieroglyphics which some of their correspondents inflict upon them, can heartily concur in the sentiment of the great historian of Rome, Niebuhr, who has said: "A bad hand-writing ought never to be forgiven; it is shameful indolence; indeed, sending a badly written letter to a fellow-creature is as impudent an act as I know of. Can there be anything more unpleasant than to open a letter which at once shows that it will require

long deciphering? Besides, the effect of the letter is gone if we must spell it. Strange, we carefully avoid troubling other people even with trifles, or appearing before them in dress which shows negligence or carelessness, and yet nothing is thought of giving the disagreeable trouble of reading a badly written letter." I trust that with the liberal provision now made for the instruction of the youth of our city in this highly important branch, none of them will hereafter be guilty of what Niebuhr regards as "a never-to-be-forgiven offence."

*Truancy.*—In my former report I spoke of "the desirableness, and necessity even, of the appointment of some one, having the peculiar qualifications requisite for such duties, who should devote his time and attention exclusively to this subject."

Early in the present year, Mr. Jesse Huse was appointed truant commissioner, an office which, at different periods, he had previously held for several years. Having no official relation to this officer, I am not expected to express my opinion officially as to his qualifications for this peculiar service, and his success in the discharge of its duties. Still it may be proper for me to say that so far as my own personal observation extends, as well as from what I learn from the teachers, he has with fidelity, tact, discretion, and kindness, accomplished much in the way of remedying the evils caused by habits of truancy, which is one of the chief obstacles to any valuable and permanent improvement of our schools.

From his report to me, it appears that from April 1st to December 1st of the present year, he has investigated 462 cases. Of these, 287 were truants, 121 were absentees, 17 were new scholars, and 48 had been guilty of misdemeanors. Eighty-one of the above required a second visit from him, and 27 a third. During the same time he has arrested 22 for truancy, who, with two or three exceptions, have been sentenced to the house of reformation and employment for juvenile offenders in our city, for terms varying from three months to two years. Those not sentenced were bailed, and returned to school.

*Uneducated Children.*—It has been well said, that "a parent who sends his son into the world uneducated, does as great injury to mankind as to his own family; he defrauds the community of a useful citizen, and bequeaths to us a nuisance."

Deeply impressed with the truth of this sentiment, our State legislature has made provision in the General Statutes for the instruction of every child under fifteen years of age, and imposed a fine "not exceeding fifty dollars for each offence, to be recovered by indictment," upon "the owner, agent, or superintendent of a manufacturing establishment, who employs a child in violation of the provisions" of the statutes relating to the subject.

As my report is already so long, I will only say, very briefly, that I have given as much time and attention to the duty imposed upon me in relation

to this subject as my numerous other duties would permit,—not so much, however, as its great importance demands. I am satisfied that very many children are employed in the manufacturing establishments of our city in direct violation of the statutes. I have been furnished by several teachers with the names of many children who are now at work in several of the corporations, without having been required to exhibit the usual certificate of attendance at school the prescribed period, many of whom could not obtain it. One case is that of a boy under twelve years of age, reported to me as having “gone to work in one of the mills, without a certificate, about the first of July, 1864, and remained there until October 2d, 1865.” There are doubtless numerous other similar cases. In several instances I have addressed notes to the agents, from some of whom I have received courteous replies, expressing their ignorance in regard to the facts communicated, and their desire that the wise and salutary provisions of the statutes should be carried out. By some others, no notice has been taken of them. So far as I can judge, it is not the agents, but the overseers, and other subordinate officials, who thus violate the law, and render their employers liable to its penalties. I commend the subject to the consideration of the board for such action as its importance demands.

*Moral Instruction.*—There has seemed to me to be in most, if not all, of our schools, a neglect of some regular, systematic instruction in morals. It certainly cannot be because the moral faculties do not need to be educated as much as the intellectual, or are less susceptible of cultivation.

This neglect is, perhaps, owing in part to the fact that such instruction is too little appreciated by those whose children are most directly benefited by it, although this, of course, should not excuse the teacher from the discharge of a duty so important. It is too true, as has been said by an English writer, that when “a father inquires whether his boy has been so taught that he can construe Homer, understand Horace, and taste Virgil, he seldom asks, examines, or thinks, whether he has also been taught to be grateful, generous, humane, compassionate, just and benevolent.”

It may also be because no text-book on morals is prescribed in the school regulations, and no provision is made for instruction in morals beyond the mere general requirement that “politeness and good behavior shall be carefully inculcated.” A much more effectual way of inculcating morals than by a text-book, with regular recitations, would be the appropriating a very few minutes each day to a general exercise, requiring the attention of all the scholars in the room, in which the “good behavior” should be taught by explaining and enforcing habits of neatness, order, obedience, and politeness; by relating short stories illustrating and stimulating the virtues of honesty, truthfulness, kindness to playmates, animals, etc. Occasionally, too, a reading lesson, in which some moral sentiment is developed, might be supplemented by a few appropriate remarks, by which a deep and abid-

ing impression might be made on the minds of some, at least, of ars. But in no way can "politeness and good behavior" be so taught as by the daily "walk and conversation" of the teacher himself. If he be of boorish habits, and regardless of the common proprieties, the presence of his pupils, or deficient in any of the moral virtues, no benefit will they derive from any oral instruction which he may communicate on these subjects? And again, as intimately related to this, if the teacher's manner and language are harsh and severe, if he indulges in opprobrious and insulting epithets, how can he expect the respect and affection of his pupils, without which all moral teaching will be of no effect? In every school there are some gentle, sensitive spirits that shrink from the rough words and repulsive looks of the teacher, as the timid lamb does from the fierce growl of the tiger.

*Superintendent.*—ABNER J. PHIPPS.

### MALDEN.

*Reading and Spelling.*—The importance of greater attention to reading and spelling, which has been so often presented to teachers in former years past, seems now to be thoroughly appreciated by them. We are sure we speak within bounds when we record it as a fact, that the degree of correct spelling in the first class in the Primary Schools is higher than that of words of the same degree of difficulty, is higher than that exhibited in the second class, perhaps than that of the first class, in the Grammar Schools four years ago. And the spelling is generally of uniform excellence in all the classes.

The improvement in reading has been nearly or quite as great as in spelling. In some schools it has really been remarkable. Soon after the summer vacation of 1864, the board, desirous to stimulate and increase the zeal of pupils in the High School to make still greater progress in this direction, offered two gold medals, of equal value, to be presented at the end of the school-year, and to be competed for by all the pupils of the distinction of classes. Considering the medals of the same rank as offered to that pupil who should attain the greatest absolute excellence in reading during the year; and the other, to the pupil who should show the greatest improvement in reading in the same period. The result of the experiment was highly satisfactory to the committee. At the annual graduation of the school in July, they had the pleasure of presenting for "Excellence in Reading" to Miss Sarah F. Rogers, that for "Improvement in Reading" to Miss Emma F. Wise.

Medals of the same value and for the same objects, have been presented for the present year.

It has also been determined to present at the close of the year, five silver medals to five pupils from the first classes in the several Grammar Schools, who shall make the greatest improvement in reading during the year.

We dare say objections may be offered to this plan as an unnecessary innovation, by some who have, or who think they have, real objections to the system of rewards and of competitive examinations. We do not intend to reply here to any such objections. We are conversant with the whole argument for and against the system, and considering it all, have thought it well to try the experiment, simply in reference to "Reading," in this town. If, on the whole, it shall seem to us to result in more harm than good, or if, indeed, it shall appear to give rise to any positive inconvenience and wrong, it can easily be discontinued. With its working thus far we are entirely satisfied.

That our teachers and the more advanced pupils might have the benefit of some practical instruction in elocution, from an accomplished teacher who has made that branch a speciality, we secured the services of Stacy Baxter, Esq., for a course of lessons on this subject. Mr. Baxter met the teachers and the pupils of the High School once a week for twelve weeks, showing by theory and by illustration, the principles upon which good reading depends, and imparting much valuable instruction. The effect of these few lessons should be felt in every school in town.

*School Committee.*—GEO. W. COPELAND, G. D. B. BLANCHARD, W. H. RICHARDSON, J. FRANKLIN WAKEFIELD, JOHN W. CHAPMAN, JAMES G. FOSTER, FREEMAN A. SMITH, GEO. P. COX, ALBERT F. SARGENT.

## MARLBOROUGH.

Much credit is due to the foreign population in most sections of the town, for the interest they are taking in the schools. There is an increasing desire among them to have their children educated. To this end their children are becoming more regular and prompt in their attendance on the schools, and evincing, on their own part, a strong desire to equal or excel their mates, native born. Some of the finest scholars in our schools are among these children.

Our Common Schools are truly the "nurseries of freedom." The children of all are on a grand equality in them; and so long as they are maintained in their purity, we need have no fears for the safety of republican institutions. If "foes within," after a severe and bloody trial of four years' duration could not succeed in destroying them, surely no "foe without" could succeed against a people educated together to love virtue, intelligence and freedom.

One serious evil still exists in some of our schools, and that is truancy, and we apprehend it is not the fault of the scholar in all cases. In one of



the Grammar Schools (No. 2,) eighteen scholars were absent on the day of examination. This is a serious damage to the school, but a more serious damage to the pupil. No child under proper control would be allowed to be out of school at the closing examination, even if he has been a member up to that time.

The duties of the parent and pupil to the school do not end one before the duty of the teacher; and every parent and pupil should understand that every member of the school should be in his or her place at the close of the same, unless for some good and sufficient cause.

It may be said by some that it is necessary "to work," because "parents are unable to send their children to school." Let us say that the money earned by children when they ought to be in school, should be paid for the results of their ignorance in after life.

The town has adopted by-laws respecting truants. Let these be enforced to the letter; there is great need of it.

The town is now paying a large amount of money for the support of the schools, and it is wrong, it is utter folly, in fact almost if not criminal, for parents to neglect the golden opportunity for their children. Our country needs more educated men and women. Business of all kinds will require more education; and educated labor is the best, and a man is the best paid. Every man and woman is interested in the education of all the children, whether they have children or not; and the influence of every person ought to be exerted to induce every parent and guardian to improve to the utmost the advantages offered him. If this were done, we should have less cause to complain of that kindred evil in our schools, tardiness. This, with some of the children, appears to be a chronic complaint, for which we have not found a remedy. Parents must be made to feel that it is a serious detriment to the good order and progress of any school to have its members dropping into the room, one after another, for five or more after the work has commenced. It is a curse to the school and to the pupil also, for he is thereby acquiring habits of slackness and idleness which will follow him all the days of his life.

It is true that in many of our schools there has been a great improvement in this respect; but, as a general thing, it is in those schools where the parents have taken an interest in the matter.

We earnestly hope that the coming year will show a great improvement in the punctual and constant attendance of all the members of the

*Graded Schools.*—The utility of Graded Schools seems obvious, and we do not believe that the system is practically perfect, or can be made so, so long as minds differ in time and degree of development, circumstances of birth, and instinctive aspiration, so long will perfect classification and arrangement be an impossibility. Still, we thoroughly believe it is the best yet devised, if judiciously applied.

The work of classification is one of great necessity, delicacy, and difficulty. It requires nice discrimination to judge of one's capacity, power of development and acquisitions. A great wrong may be committed to the mind of a child by promoting too fast, as well as too slow. It cannot be done by age, privilege, or by help at home; they are only modifying circumstances. It requires daily acquaintance, comparative judgment, and wisdom. The child is unfitted to decide, nor can parents do so. The matter is safest in the hands of a true teacher, subject to a committee of integrity and practical wisdom. A scholar who can answer the question in the book, just as the book has it, is not consequently ripe for promotion, any more than such an one farther along, who can say all the book says, and "do all the sums," is therefore fitted for a teacher. Mental capacity, strength, and comprehension are essential, as well as knowledge.

Grading must not be a hobby, nor must long rein be given to an aspiring, self-glorifying teacher, with which to make a show with a few brilliant scholars at the expense of a larger half, who are more worthy and sensible, but less ready and brilliant. The constant desire and effort should be to do the greatest good to the greatest number. Private Schools, with private funds, may do what they please; but Public School committees and Public School teachers, with public funds, are recreant to duty and philanthropy, if they practise or tolerate such partiality. Their calling is too sacred for such selfishness and cruelty.

EDUCATIONAL.—*The Gates' Fund.*—This consists of money, given by Messrs. Silas and Abraham Gates, father and son, natives and residents of this town, to endow the Academy, called in honor of them, "The Gates Academy," the yearly interest of which was to go to the principal of the same as a part of his salary. When it became necessary by the law of the Commonwealth, to establish and support a High School, as it was evident both could not be rightly sustained, the trustees proposed, the heirs generously consenting, to turn the use of their building and the yearly interest of the fund, to its support for the time being.

It was accepted, and the principal, Mr. O. W. Albee, was employed as teacher. This arrangement continued till the winter term of 1860, when the old Academy building, which was owned by proprietors, having been sold and removed, the principal resigning, the new building completed, the school went into operation as at present situated. The heirs-at-law, Mr. and Mrs. S. R. Phelps, considering it in accordance with the spirit of the donors, relinquished their claim in behalf of free-school privilege for their fellow-citizens. The trustees, by power from the court, turned over their trust to the authorities of the town, they by a vote accepting the same. Thus the town hold in trust forever two thousand dollars, known as "The Gates Fund," the interest of which is annually to be paid for teaching in the High School. This should be yearly recognized and reported. It is



now invested in the town bonds, running twenty years. Such charities and the public good, should be carefully preserved, applied, and the donors remembered with gratitude and veneration.

In consideration of this relinquishment of their right, by the meeting called in April, 1861—

*Voted*, "That the town appropriate the interest of one thousand dollars, for ten years, next ensuing, for purchasing, by the superintending committee, apparatus and other things necessary to illustrate the sciences in the High School, said apparatus to be known as 'The Gates Fund Apparatus'."

As the change of teachers has been so frequent, the school so fluctuating, and the times making such an unprecedented demand for money, for various reasons, the committee have not thought best to move in this matter this last half year.

Mr. Ingersol seemed to be permanent, and took hold of the matter with a zeal and intelligence that made it evident the right time had come. Consequently, we made a beginning by appropriating \$365 for the purchasing of apparatus and fixtures, according to the above vote. The apparatus obtained is chiefly for illustrating pneumatics, electricity, &c. We had before appropriated \$50, for purchasing books of reference, gazetteers, an atlas, lexicons, an encyclopædia, etc., making in all \$415.

Thus a beginning has been made, the end of which must largely depend upon the generosity of the town. To make a tolerably complete apparatus, as described by the vote, will require a large and continued outlay.

*Brigham Fund.*—A great many years ago, a Mr. Brigham left to this town of some \$500. The interest of \$100 to be paid to the lecturer of the town for delivering a lecture annually upon the subject of "Education." This was called "The Brigham Lecture." The interest of the remainder was to support a term of school called "The Brigham School," at the end of the winter term, in the centre of the town, where it was to be taught "reading, writing, and ciphering." This was largely receiving propositions from the several masters, from which a course was made.

At first the school was very large, being open to all, and coming from the farm work commenced. The attendance was very irregular, and the school was opened the large boys left to work. Being strangers to each other, and often with a stranger teacher, and frequently the older boys and girls having other objects in view than to learn, it was not a profitable school by any means, during the last part of its continuance, and the lecturer was of no form, and useless. The heirs being dead or scattered, the legislature gave power to the town to hold the legacy in trust, the interest of which

go to the support of the general schools, to be recognized as "The Brigham Fund." The present interest is \$24.13.

*Eames Legacy.*—This consists of a wood-lot lying in what is called the Farm District, near the house of John T. K. Parmenter, containing about eleven acres. It was given by Mr. Stephen Eames, former proprietor of what is known as the Jonah Howe Farm, for the benefit of the Farm School, to cut wood therefrom for their fire. The wood on more than half the lot is the old first growth, which is fast growing poorer and falling down. The school requires about five cords per year, worth on the lot some three or four dollars per cord. We think there are two hundred cords of wood upon it, growing poorer every year. It is, to a large extent, dead property, in every sense, for it neither pays taxes nor is required, nor allowed to be used to any reasonable extent. Now, if any arrangements can be made with the heirs, or by authority from the courts, to sell and invest this property according to the spirit and desire of its liberal donor, and for its greater usefulness, it would seem to be wise, grateful, and a duty.

*School Committee.*—D. B. GOODALE, GEO. S. RAWSON, S. N. ALDRICH.

### MELROSE.

The committee have noticed in examining the registers of the teachers, how much more frequently ladies visit the schools than gentlemen. We have no doubt it is the same in almost all other parts of the State. Without drawing the conclusion that one sex is more interested than the other in the work of education, the fact is certain, that women pay more attention to it than men. It is very well known, too, that from the nature of their other occupations, a large part of the members of school committees do not fulfil the duties of the office either to the extent which the law demands, or in a manner satisfactory to themselves. The committee are deeply impressed with the idea, that it would give a fresh impulse to Common School education, if one or more ladies were placed on every school committee. It can hardly be questioned that females are generally the best teachers of children. Their quickness of observation and their warm sympathy, enable them both to see and feel the needs of their pupils, and at the same time render them more capable of satisfying these needs. We do not intend to touch on the subject of women's rights. But, surely, while the far greater part of all the teachers in our schools are ladies, it cannot be carrying other ladies out of their proper sphere, to make them legal visitors of schools. The same qualities of comprehending and sympathizing with the feelings of the young, and the moral and spiritual force which make women good teachers, would surely render them good members of

school committees. It is not uncommon now for women to be postmen and clerks in public offices. It cannot be questioned that they perform the duties of these situations as well as men.

Let the legislature pass a declaratory statute saying that a majority exceeding half, of every school committee may be women, the result will be, that in a few years women would be found so useful in these boards that there would be scarcely a town in the State which would not secure the services. In the meantime the town is greatly indebted to those who, without holding any official position, encourage and animate the teachers and pupils by occasional visits.

*School Committee.*—S. E. SEWALL, T. W. CHADBOURN, J. B. RICHMOND, G. NOYES, GEORGE A. MANSFIELD, GEORGE EMERSON, 2d.

### NATICK.

*Truancy and Absenteeism.*—It will be recollected that the committee prepared some by-laws last year respecting truant and absentee children, which were adopted by the town and approved by the superior court, so that three truant officers were elected by the town to see that the laws were enforced. Those officers did their duty faithfully, and we believe to a no small degree owing to their influence that a considerably larger number of children than usual of the children in town, between the ages of five and ten, have attended school during the past year. The knowledge that there were such officers has probably, in many cases, obviated the need of their interposition. In a town like this, where there are many uneducated parents, there is apt, naturally, to be more occasion for their services. We welcome their aid and co-operation in the great work of extending the benefits and increasing the usefulness of the schools.

*Writing.*—The committee have desired and sought to give special attention to writing during the past year. Early in the year they procured a series of writing books (Potter and Hammond's,) on a new and improved system, and accompanied by cards, to be hung up in every school, giving examples, for the guidance of scholars, of the proper mode of writing the various letters. In introducing them, the attention of teachers was called to them, and the wishes of the committee expressed in regard to increased attention to that branch. In some of the schools,—not judging from the appearance of the writing books, the same old habit has been pursued; the writing books have been distributed once or twice a week, the scholars have written some twenty minutes or half an hour without instruction from the teacher, and without looking at the books when the books are again collected and returned to the teacher's desk. The teacher does not examine them to point out defects or suggest improvement.

is, in no proper sense, teaching writing. And, in point of fact, there are very few Public Schools where writing is really taught. We shall endeavor to see that it is more faithfully attended to in the year to come.

*School Committee.*—NATHAN RICE, J. B. FAIRBANKS, HORATIO ALGER.

### NEWTON.

*Discipline, Morals, Manners.*—The discipline of the schools during the past year, with a few exceptional cases, has been worthy of commendation. And it has been secured, generally, by an appeal to the highest motives,—by earnest and kindly efforts on the part of the teachers, to awaken in their pupils a sense of propriety, and to draw them into sympathy with established order—corporal punishment having been rarely resorted to, and confined to extreme cases of incorrigibility. Believing that habits of order, whether in their application to bodily or mental action, are essential to any tolerable improvement, the committee have been anxious to establish in our schools a discipline, which while it claims unqualified respect for the majesty of law, yet recognizes, as far as possible, the republican principle of self-government, and aims to secure voluntary rather than enforced obedience. They would prefer to exclude all coercive measures from the school-room, leaving its order to establish itself as the result of a manifested interest and affection on the part of the teacher, and a sense of duty and reciprocal attachment on the part of the pupils. But this is hardly practicable so long as many of the pupils are so ill-governed, or not at all governed at home. Our schools are not composed on any “principle of selection.” They contain elements of every variety of home culture. And their highest interest, as well as the life-long welfare of some that compose them, would seem to demand that, when Christian love, and moral suasion, and long-suffering patience have proved unavailing, in the case of any offender against established order, inflexible law must intervene and employ its instruments of coercion. The school is a microcosm. It contains, in partial development, all the elements of larger and older communities, whose most indulgent members would hardly dispense with the coercive influence of penal laws. But whatever means are employed, the teacher should be careful lest he lower the moral tone of his school, by securing only a mere inert, passive conformity to his commands, rather than a cheerful and willing co-operation with his efforts in accomplishing the proposed end of the discipline.

In speaking of the moral tone of the school-room, the general subject of morality is at once suggested. But as this, as an important element of popular education, received some attention in their last report, the committee do not propose to enter upon the consideration of the abstract subject



now. They would merely advert to it here as a practical method, an element that interfuses itself more or less into the instruction of the daily life of our schools.

By the constitution and laws of the Commonwealth, all teachers are required, by precept and example, to inculcate upon their pupils the moral virtues; yet from the relation sustained by the teacher to his pupils, exercising authority on the one side and obedience on the other, his instruction takes its color and tone from the Decalogue, naturally assuming a negative character. Instead of establishing in the heart a principle, of which the moral virtues should be the spontaneous outgrowth, their instruction necessarily takes the character of admonitions and cautions against the commission of the prohibited vices. And thus, often, without any fault of their own, in the interior substance, they may secure only an outward conformity. To tell the pupil that he must not take the name of the Lord in vain, that he must not bear false witness, or that he must not steal, is a very different thing from implanting in his heart a sacred reverence for God, and a just regard for the rights of others. Too much of the instruction of our time, in school and out of school, is a stiff, stern, outside thing, taking more of the negative character of the law, than of the positive, spontaneous, and graceful character of the gospel.

In forming the moral characters of their pupils, then, teachers should aim at something positive, and should clothe the essential principles with an attractive garb of gentleness and courtesy. For if "cleanliness is next to godliness," good manners have a nearer fellowship with good morals than in his enforcement of morals, the teacher should recognize this in the school-room, and out of it, indeed, to the very extent of his power. —for the manners formed there will become the manners of the whole of all the thoroughfares of life.

Notwithstanding the wider diffusion of intelligence among us, our manners, we fall far short of the less favored people of Europe. Our manner of address is brief, gruff, and hasty. Our "yes" and "no" are very short words, and if, by an unusual license, we add "sir" or "madam" again is as short and crispy; and our whole out-of-door instruction is monosyllabic, brief, and ungracious. Something of this may be traced to the very words of salutation with which we are provided by the vernacular language. But if so, then let there be a general prayer for the improvement of the language. But it is believed that the fault is not so much in the meagreness of our terminology, for whenever there is courtesy and respect it will find vent in some verbal expression and action. When a Frenchman meets an acquaintance in the street, he bids him, with a hearty "good morning," and finds time while he is saying it to take off his hat. It is a good and gracious commencement of

of the day. There is something almost courtly—certainly entirely courteous in it. And what a contrast is there in the manner in which we often see men meet each other in the streets! They often pass each other without any recognition, or with the least possible exertion of the vocal organs, by saying, “morning,” which probably is elliptical for “good morning”—and this, perhaps, without even a touch of the hat or any corresponding expression of the body.

It is the remark of some one, that “the manners of life are the chief language of the affections. If that language be abrupt and harsh, there is danger that the affections may take their tone from it. Manners affect the mind. And the mind of an ill-bred people is likely, at length, to become coarse and degraded. There is a morality in street salutations. And it cannot be doubted that a man of harsh and repulsive demeanor may give more pain as he passes through the street to his home, than he could give pleasure or do good, if, when he arrived there, he should distribute the most liberal alms.”

It is to be feared that in the rush and hurry after the tangible prizes of life, which is so marked a feature of the present time, the manners of our people are becoming less courteous. It would certainly seem so, when contrasted with the graceful “manners of the old school” which flourished in the early part of the present century. Yet this national defect, lying, as it is believed it does, mostly upon the surface, is not without remedy. It cannot be that republican institutions are always to be found hostile to the gracefulness and refinement of life. And yet much is to be done and taught among us. Our homes must begin the work upon the plastic materials which the All-wise Provider has bestowed to be wrought by parental affection and Christian nurture, not only into agencies of strength and activity, but also into “polished pillars” of grace and beauty.

And our schools must furnish their every-day lessons to train the young to habits of order, to implant within them true principles of action, and to fit them to be exemplars of graceful manners and Christian courtesy, in the relations of life.

*In Memoriam.*—In closing this report, the committee cannot forbear to record a brief notice of him who for so many years has stood at its head and imparted so large a share of wisdom to its councils, and of vitality and efficiency to its action. During the whole time of his residence in town, he identified himself with all the strength of his mind, and with the full fervor of his heart, with the cause of popular education. Finding the schools in an imperfect condition, he labored with a most unselfish spirit, and, at first, under the discouragement of much opposition, to bring them up to his more perfect ideal of what a Common School should be.

And now, in large part, through his organizing ability and remarkable skill in subsidizing suitable agencies to accomplish his noble purpose, the

schools, at the present time, have become a nobler monument to him than any memorial that the most lavish munificence could reared to his tomb. His name, though unrecorded on tablets of brass or of marble, is embalmed in the hearts of thousands, who have received instruction and incitement from his wise counsels and luminous example, and who have passed into the world with them something of his determination to make the best of it.

But not only in connection with popular education was his influence manifested. Possessing great versatility of talent, almost every demand was made upon his services.

As a citizen, he shared largely in the popular favor, and exercised a commanding influence. Though innately modest and self-distrusting, the sense of duty forced him into action. The general confidence reposed in his judgment and clear perception of the relations of common life made him the familiar counsellor of all, and furnished him with daily opportunities for affording counsel and sympathy as well as substantial aid. He was reconciling the difficulties, healing the wounds, and removing the obstacles of the "common life our nature breeds."

As a friend, he proved himself worthy of all confidence. Without disguise, he strongly attached to himself all who sought his aid, and gave back, in reciprocal attachment, even more freely than he received. He made no one a stranger to his thoughts. Whom he loved to counsel, he was most free to admonish of faults and foibles. He thought no man his friend, who had not first found a friend in him. And when he gave his confidence, his friendship burned with a steady, unchangeable flame.

As a physician, he will be lamented in proportion to the great confidence reposed in him. His presence in the sick chamber was a blessing. With a heart full of sympathy and tenderness, he approached the patient with pain and anguish, and administered alike to the diseased body and to the no less diseased mind. And multitudes will cherish him in the memory as the "beloved physician," who, in imitation of the Great Physician, said, "I will do good."

As a Christian, he was without reproach. Embracing a faith in the few traditional supports, he strove to give it practical sway in all his life. From this faith sprang all his works of beneficence, his tender ministrations. It sustained him in the dying hour, and gave him with hope and the fore-gleams of immortality.

In the midst of life's duties, and in the vigor of manhood, he was stricken down. At first thought, and with our present sense of the value of life, his death may seem premature. But it is not so. We live not in years. He most lives who thinks the most, feels the most, and acts the best. Our friend lived a well-rounded, completed life. He was, than most men, however old, fulfilled his destiny, and exemplified that,

“ That life is long which answers life's great end.”

With this view and appreciation of the life and character of our late associate, the committee have adopted the following Resolutions, and ordered them to be appended to this report.

*Resolutions.*—Resolved, That in the sudden death of Doctor HENRY BIGELOW, we have sustained an irreparable loss. While we bow in humble submission to the Supreme Will which has ordered this event, we cannot but deeply deplore our great bereavement.

As a member of this board for eighteen years, and over which for the last fifteen years he has presided with uniform urbanity and entire impartiality, he has constantly and efficiently aided us, by his sagacity, sound judgment, wise counsels, and prompt action.

Living neither behind this progressive age, nor before it, he perceived the exigencies of the *living present*, and exerted all his great power in giving wise direction and impulse to every measure which aimed at the improvement of society. In the great cause of education, he held a prominent place. Monuments to his memory, of his own rearing, are all around us. Our noble school-houses, and our nobler schools, are proud memorials of his earnest and judicious labors. The tears that came unbidden to a thousand eyes in the school-rooms, when his death was announced, are his silent eulogy.

Endowed with more than ordinary powers of mind, improved by liberal culture, not only in his chosen profession, but by large and various knowledge, with a great heart beating with love to God and love to man, eminently unselfish and unambitious, he went about doing good. From his ascending chariot may his mantle fall on us.

Resolved, In the profound grief of his family, so suddenly bereaved of their loved and honored head, we tender them our warmest sympathies, and pray that they may receive all needed support and consolation from the same Divine Hand and Heart of Love, which guided him in all his life, and sustained him in death.

Resolved, That the secretary of this board be requested to present a copy of these Resolutions to the family of the deceased.

*For the Committee.*—WASHINGTON GILBERT.

### PEPPERELL.

In monarchical governments the heir-apparent to the throne is educated with special care and reference to the ruling of the nation he is to govern. Our government is a combination of all for the good of all. On this principle all are of equal rank,—the sceptre of power is with the people, and they must have large intelligence to wield that power wisely, and for the good of all. Look upon the school. Here are the legislators, the executives and the jurists of a future day, and here are they who are to elect them. Upon us rests the responsibility of preparing them for their work. How much is involved in the result!

Cherish then our Free Schools. Strive that their privileges may be enjoyed by all. Let not partisan feelings touch them. Let action which



regards their welfare be deliberate and intelligent. See that they are imbued with the importance of their work, and with that ought to actuate them in their responsible trust. Fellow-citizens, the care of our schools is really in your hands. Committees are not the agents; the principal is the citizen. Let our children love the intellectual and the moral; to love their country and their God, and to reverence Him who rules and governs all. The men and fathers who have established these our loved and cherished schools, and the blood of our friends whose vacant places so sadly remind us, vast was the sacrifice made to defend them, call upon us to faithfully and unwaveringly maintain and perpetuate them.

*School Committee.*—LEVI WALLACE, A. J. SAUNDERS, C. W. BELLows.

### SOUTH READING.

There is a mistaken idea with some people, that nobody has a right to control their children or to dictate a course for them. That no one has a right to say that they must attend school or to oblige them to take up a particular course of study while at school, argues thus: "Who has a greater interest in my children than I? If I keep them at home occasionally, or even frequently, or if I send them to school, or are requested to be dismissed before the close of the day because I have need of their services, and who has a right to interfere with those services?" There is a rule of universal application which will decide in this matter. "Whatsoever ye would that men should do to you, ye even so to them." As we would be unwilling for others to act to the injury of the school where our children were in attendance, so we are taught by the "golden rule," to refrain from every act which would be to the schools in which others are interested. If we lived alone and had everything our own way, but mingling in society and seeking communion from others, we merge some of our individual rights in the cause; and laws are framed for the public as well as individuals. Whatever is best for the community as a whole, must be acquiesced in by the separate members of that community. So it is in regard to schools. The statutes give the general control of the schools to the several committees of the several cities and towns in the Commonwealth, and the rules which they make for the government of those schools, are made in their best judgment, and are the result of experience. They are made for all the pupils and for the best good of all. They operate justly. They can easily be obeyed, and they should be, even if it costs a little convenience. Some people find it inconvenient to pay school taxes, but they are seldom excused on that account. Children who are early restrained at home, find it unpleasant sometimes to meet

ments of the school-room. They come in collision with wholesome laws, and either they or the laws must yield. Enforcing the penalty for a violation of the rules, subjects the committee to censure for making them, and the teacher for executing them. The "willing and obedient" complain not of rules as unjust and arbitrary, but accept them as made in wisdom, and seek most to know how they can honor them by an observance.

Too great care cannot be exercised to guard the daily walks of children when not in their homes or in school. Many well-taught children, the pride of their parents, innocent in words and thoughts, come in contact with those in the street, whose very breath is contamination. There is a class of boys that lounge about the streets, and lead virtuous lads astray. They are to be found at the corners of the streets or on the side-walks, as children are on their way to school, whom they tempt to truancy by a game of marbles, or the like. When school closes they are still at their games, and induce a throng to join them. If parents, without being observed, could listen to the conversation of such a gathering, their ears would be pained with excited, vulgar, and sometimes very profane language. Such groups are found especially on days when the schools are not in session, and children are among them who are carefully taught at home. "We do not play in earnest," they sometimes reply to those who question them, but one would think they were in earnest to hear their loud talk, their angry disputes, and often wicked words. Parents should know where their children are through the day and evening, when not at school, and see that they avoid public places where people, old and young, congregate to hear or tell some new and strange thing. If children leave their homes in the morning, spend the day in the streets, and are under the paternal roof principally to eat and sleep, it will require no prophet's knowledge to foretell their end. Street education is a kind that one can receive too much of, for the more he attains the nearer ruin he is.

A city missionary visited an unhappy young man in jail, waiting his trial for a state prison crime. "Sir," said the prisoner, tears running down his cheeks, "I had a good home education; it was my street education that ruined me. I used to slip out of the house and go off with the boys in the street. In the street I learned to lounge; in the street I learned to swear; in the street I learned to smoke; in the street I learned to gamble; in the street I learned to pilfer. O, sir, it is in the street the devil lurks to work the ruin of the young."

Let boys beware of a street education; and much of it can be avoided if parents will strive to make a pleasant home for their children, and exercise authority strong enough to keep them from the dangerous influences of street society.

*School Committee.*—EDWARD MANSFIELD, E. A. UPTON, EVERETT HART, C. W. EATON, CHARLES R. BLISS, GEORGE BULLEN.

## STONEHAM.

Whether the languages as taught in our High Schools at present yield at least a portion of the time given to them in order that the natural sciences more prominent, is a question among educators. Of course, there are two sides to this question, and each side has its own advocates. Neither party pretends that all wisdom dwells on one side of the house. No one says that the study of the languages is a waste of profit, or that the natural sciences contribute nothing to a child's education. It has been our aim to raise into more prominence the natural sciences and not to lower the standard of the languages. The former have been but poorly taught in the High School heretofore, partly from a want of sufficient apparatus.

We hear the question started by persons whose means were more limited than are those afforded to the present generation. "What good does it do to study Latin in our schools, especially when we have to study it who do not contemplate going to college?"

We feel disposed to give some attention to this inquiry, because in many instances it comes from an honest conviction of the inutility of the study, and not from a desire to underrate it, because the individual who has got along well enough in life without ever looking into a Latin book.

There is a great mistake, very prevalent in the community, as to *what education is*. Sometimes we are able to define a thing, and we therefore say that educating a mind is not like pouring water out of a jug, or dropping apples into a barrel. The mere acquisition of facts resembles these operations. When one labors in the thought of how to put facts away in the memory is education, he cultivates but a small part of the domain of mind, merely the faculty of retaining and recalling. We speak of educating the hand. The pianist and the oculist must educate his hand; and every one knows that if excellence is to be attained comes only after long and patient practice. The hand of the oculist, especially of the one who operates on the eye, must be an educated hand. The hand of the watchmaker must be an educated one, or it will not be able to file and fit the delicate little things about that instrument. Thus, in all these various kinds of education by exercising itself in the work which it is proposed to operate. It has to go through a preparatory course of schooling. In this preparatory course, we do not regard so much *how* it does, as *how* it does its work; not, how much it earns, but *what* it is constantly gaining.

Here is the mind of the child to be educated, of more importance than the economy of nature than hand, foot, tongue, ear, or eye, inasmuch as it is direct in all efforts to improve these organs. The mind is to be trained for the work of life, and the child must have the various pre-

mind not only developed so as to be capable of active force, but those powers must be obedient to the will. Without this the mind can never work with energy and effect. Until this command is attained by the will over all the faculties, our mental powers remain undisciplined and almost useless. If this power of subjecting all our mental powers to the control of the will be not attained in youth, it is not likely to be gained at all. The season of youth is the most suitable time for the attainment. Whatever methods may be adopted, it is evident there must be system. Experience proves the great advantage of assigning to the child certain appropriate lessons to be learned thoroughly and at stated periods. The attention must be directed earnestly to some subject, and when this is continued with fidelity for the period usually assigned to the "school-days" of one's life, the power of the will to command the other faculties to work in any particular direction, is attained by habit. But to acquire habits of earnest and continued attention is not the work of a term, or of a year of study. There is, undoubtedly, some original difference in the quality of minds, but the surprising contrast in the exhibitions of mental power among men is not attributable so much to natural differences as to the cultivation and development of those qualities of mind which are the common inheritance of all the human race.

The mind soon becomes familiar with that knowledge which the practical duties of life require us to know,—our every-day work. Reading, spelling, writing, simple arithmetical calculations, the keeping of books of accounts,—the common uses of knowledge in our every-day life,—soon cease to tax the mind. Something beyond the rudiments is required to fit the mind to grapple with some of the many hard problems of life which sometimes surprise us by their sudden and unexpected appearance. It is unquestionably within the range of possibilities for a man to eat, drink, work, sleep, and clothe himself decently; to heap up wealth in a pile so high as to shut entirely out of view the poor-house both for himself and for "his heirs and assigns," and to gain that empty deference which is always given to riches; to pass comfortably down the vista of years to his threescore and ten, without ever having entertained a dozen original thoughts, unconnected with the policy of making money, in all his life. But every one must see that such a mind is necessarily contracted within very small limits, and the range of intellectual enjoyments for such a human being is also small.

If, then, the mind is to be disciplined, enlarged, those studies must be pursued which compel earnest, continued mental effort. As a means of discipline of the mind, the study of Latin is of great value. It calls into active exercise more faculties than almost any other study. It requires more than a recollection of the meanings of words. It appeals to the reason, to common sense. Out of elements of sentences which may at first



view appear to be thrown together in chaotic confusion, the required to erect a structure that shall have foundations and proportions and symmetry. He is constantly required to direct his mind to the structure of sentences, and to the minute shades of meaning to the words of the language he is learning and to the words of the language by which those meanings are expressed. Does any one see that in this way one is gaining an exact knowledge of the language? Much of our English is derived from a Latin origin; therefore, a student is well versed in Latin, he has the foundation for a thorough knowledge of those English words transferred from the storehouse of words, from which for so many centuries others besides our mother-tongue, have drawn their supplies.

So much do we have to do with language, expressing our thoughts in words, learning the thoughts of others by their written or spoken words, that the study of language must always be deemed of prime importance in any system of education, when we mean education that is really called such. We believe the study of Latin is desirable, over the consideration of the discipline of mind acquired thereby. If we were to be put to the work of understanding only the English language, its elements and construction, the most effectual way to accomplish this would be to put the Latin Grammar into his hands. The Latin Grammar is unsurpassed for containing in the most concise and logical manner the principles which underlie the construction of all languages. Thoroughly mastered, the student has but to apply those principles to the English language, to say the least, that bears the relation to the Latin language, parent, in order to comprehend readily its structure and nature.

There are a great many things which cannot be thoroughly understood until we go back a little and see how they originated. To understand readily the difference between bituminous and anthracite coal, we must well consider the different forces to which nature has subjected them. It is also presumed that to enable one to judge accurately of the value of a shoe, some knowledge of the qualities of the original hide from which the leather has been made, and the various manipulations it has undergone before it becomes fit to be worked up, would be of advantage. To answer questions that a full understanding of the various qualities of iron will assist one to know the remarkable characteristics of steel. We must know the character of the language from which ours has borrowed so many words, and what significance did those words have in the original language, force, what strength, what beauty, what sublimity did they express. These are most appropriate subjects to be considered, and will aid one to comprehend better the same characteristics of our English words. The close relationship of the words of a language can never be understood so readily as by tracing them to their origin. There is a connect-

the present signification of all words derived from any other language and the meaning of the original word. When one knows the original word, he gets hold of the chain which binds together all the derivatives from it. How extensive may be the advantage from this source is illustrated by an example of following Latin words down into English, furnished us by a student in Latin in a High School in Essex County. The principal informs us that the scholar traced out more than *eight hundred* words in our English language, deriving their origin wholly or in part from a *single* Latin word. All this number of branches, branchlets, and twigs, took their origin from a single root.

The propriety of the study of Latin in our High Schools might also be argued, from the obligation which the Commonwealth imposes upon towns deemed to be able to support such schools. The statute requires that every town containing five hundred families or householders, (ours contains seven hundred and twenty-six families,) shall maintain a school to be kept by a master of competent ability, ten months in each year, and instruction shall be given in Latin in such school. It is safe to conform to the letter, the spirit, and meaning of that law, and unwise to depart therefrom, in our estimation.

We have thus far noticed but one of the studies to which objection is sometimes made. When the objection is founded on the alleged want of practicalness of the study, we reply that our system of education does not proceed on the principle of learning in the school-room just the exercises which the scholars will have in their various avocations in mature life. If it were so, the apparatus of the school would have to be sewing machines, shoe benches, cooking stoves, ploughs and harrows, and the books of reference might, perhaps, be a receipt book for cooking, some work on book-keeping, "business arithmetic," (not so large as the shorter catechism,) and the complete letter-writer. In such a course, Latin would have no place, because it is a *dead* language; and we learn from a high source that "dead ducks" are not the game to waste your ammunition upon. The French language, being a living one, might, in such a system as we are describing, receive sufficient attention to justify the study of a diminutive tract, sold tremendously cheap and warranted to give one a thorough knowledge of French in six easy lessons! But seriously, the fact that our scholars, when they grow up to be men and women, will not have to employ in the daily business of life any application of the principles they have learned in algebra, geometry, trigonometry, astronomy, physical geography, Latin, or French, is not sufficient to prove that these studies are of secondary importance. There is a downright practical good in *knowing* some things outside of our own limited sphere of labor, and there is a much greater practical good in having the mind so disciplined that it can concentrate all its faculties on any subject at the command of the will, and continue the struggle

until the problem is solved. For precision in reasoning nothing is better than geometry and the mathematics generally. Astronomy opens to the mind a broad field of knowledge, well calculated to elevate the thoughts. Chemistry "holds question" with the material elements, separating the thousand combinations of matter, throwing a flood of light upon dark subjects, and finding out facts which no science has yet been able to explain—some of nature's mysteries. Intellectual philosophy treats of mind, its capacities, the way it operates, how the various faculties may be improved, while physiology informs us of what our bodies are composed, of all the complicated machinery of bones, muscles, fibres, nerves, arteries, and veins; their uses, their growth, and their decay. We believe these and all the other studies prescribed for our High School are worthy of all the attention they receive.

*Music and Gymnastics.*—It is too late for any man to say that singing by the pupils of a school is unprofitable. Little children especially need recreation, relaxation; and they find it most pleasantly in singing. To study with profit, one should be cheerful; the mind should not be weighed down by melancholy or ill-humor. In the ordinary school studies, children find many occasions of vexation, things that puzzle the brain. The confinement to the room during the prescribed school hours is irksome. The humane teacher will, as soon as he detects this state of mind in his school, contrive some way to remove it. If the singing exercise cannot be shared in by all the scholars, resort may be had to the gymnastic exercise wherein all who have the use of arms, hands, and feet may join. Experience in all our schools has proved the efficacy of both these methods to drive away dulness and introduce vigor and spirit instead. But music cannot be so presented as to bring out its peculiar advantages and beauties until it is *taught*. We now have merely a few songs and tunes learned by rote, a great deal better than nothing, it is admitted. Would it not be well to have a competent teacher of music employed to give about two lessons a week of forty minutes' length each, in the High and each of the Intermediate Schools. In this way, many voices would be brought out which are now silent during the singing in school. A thorough drill in the elements would establish these *shy voices* on their proper basis. An experienced teacher says: "In respect to moral training and discipline, I regard music or singing in school as invaluable. Nothing so quickly relaxes the mind, and frees it from bad feelings and discouragements which the daily studies engender. It relieves the teacher, too, to join in a cheerful song, bodily as well as mentally. A teacher who sings often will not often scold. I believe he can expend much of his overwrought nervousness in this way; and instead of sharp tones piercing the heart, his words will fall in soft and gentle accents. Song always draws closer its participants, and love goes

with it ; and in the song exercise, if ever, there will be happiness in the school-room."

But, besides this influence on the discipline and the moral training, music, if it be taught in its elementary principles, has a most important bearing on reading. Every one must admit the close relation of "tones and words, song and speech, music and elocution." Reading cannot be taught so well as by him who understands *and applies* the principles applicable to expressing emotions by the voice. This is peculiarly the work of the teacher of music. Why should not the school teacher also, aim as high? It certainly is not because, in reading, the voice is incapable of expressing deep emotions.

*School Committee.*—LYMAN DIKE, R. [R. DANFORTH, LUTHER HILL, M. L. MORSE, FRANCIS HAY, L. S. ROWE.

### SUDBURY.

There is, at present, a scarcity of good teachers, and the reason is perfectly obvious. After a young lady has accomplished all which is taught in most of our Common Schools, and as it is there taught, it requires several years of time and the expenditure of several hundred dollars of money to obtain the further necessary qualifications for a teacher ; and then her compensation, in our country schools, is less than is received by the female operatives in our shops and factories, so that one just leaving a District School, in deciding her future course, would readily perceive that the difference would be very great, in a financial point of view, between a two years' course at a "Normal School," or some equivalent institution, and employment which would be more lucrative than teaching, and that almost immediately. Those of limited means, therefore, rarely choose the former course ; and we are limited to a comparatively small number from whom to make our selections, the larger part of whom are without experience and some of whom intend to teach but a few terms, during which, even if successful, their services are far less valuable than they might afterwards become ; and the success of an inexperienced teacher, for the first one or two terms, is very rarely what should satisfy a committee or community as a permanent result.

*Superintendent.*—CHARLES THOMPSON.

### TEWKSBURY.

*School-Houses.*—An important condition of a good school is a good school-house. We plead for no gorgeous edifice, no palatial structure, no pomp and parade of architecture, unsuited to our rural life. On the other hand, we do protest against such rude, unsightly, ill-constructed, uncom-



portable school-pens, as render good order and the highest success utterly impracticable, and put in jeopardy the health of our children. It should not be forgotten that, to say nothing of other diseases, one of the cases of consumption, that fearful scourge in New England, is often found to have had their origin in the school-room.

Be it that these old school-houses did answer for their day, the heavy, awkward muskets and ploughs of our ancestors, and the stone weapons of the North American savages, sufficed for their times. And as we now use those old muskets in war, and those old ploughs in agriculture, and those old hatchets in our mechanical pursuits, as we use those old houses for the education of our children, because they did answer for former generations.

It is, indeed, true that the kind of teacher in the room is of more importance than the room itself. A good school-house, however it may be adapted to the work of education, cannot supply the place of skill and effort on the part of the teacher, or of brain and application on the part of the pupil. But, as a poor shop will hinder a workman, so it is plain that a poor school-house, destitute of comeliness and comfort, of inconvenient size and situation, unhealthful in arrangement, cold in winter and unpleasant in summer seasons, must hinder the due progress of a school. As well think of carving a nice statue with an axe, or painting a delicate portrait with a wash brush, as securing a first-class school in a fifth-rate school-room. Money appropriated for education is appropriated for too impure a purpose to be wasted to any extent upon poor school-houses.

*Thoroughness of Instruction.*—We are prone to forget that the quality of learning is of far more importance than the quantity. In education, as in other departments of life, the thing of chief consequence is not the mere doing of a thing as the doing it well. It is vastly more important for scholars to be taught to read one page well, than to blunder along through a dozen pages; to fairly master one arithmetic, than to have an imperfect acquaintance with a score of them; to obtain a thorough acquaintance with the common branches of education, than a mere smattering of them in the common and the higher. Progress in books is not always progress in learning. One may go ahead, so far as books are concerned, and yet make no real advancement in education. To put back a child who has learned faster than he could do it understandingly, is the best way to put him forward. But there would be less occasion for scholars to commence a new book, when it has been so often the case, at the beginning of their text-books with the explanation of a term, were not the practice so common of going through a book without half learning them. The most expeditious, as well as the most usual way of obtaining a good education is, for children to make sure they learn as fast as they learn it.

*School Committee.*—RICHARD TOLMAN, GEORGE PILLSBURY, JOSHUA FREEMAN

## WAYLAND.

*State Fund.*—This is paid into the town treasury, subject to the order of the school committee, who are required to apply it according to their best judgment for the benefit of the schools. They are authorized to use one-fourth of it to furnish the school-rooms with apparatus, reference books and outline maps. Portions of it may be taken to equalize the benefits of the school system. Sometimes, for temporary or local reasons, a good deal more must be paid for board in one district than in another, and a very few dollars will save a school from being broken up without a full term and a fair examination. Most of the State fund, while the schools have been under our charge, has been divided among all the schools under the same rule of distribution which the town adopts. But we have taken portions of it for maps and reference books, and in some cases to save schools from broken terms, and have been surprised sometimes to see how much a few dollars will accomplish in this way.

We supplied the school-room of the South Grammar School with Worcester's new and large dictionary. The old dictionary was worn out. Two years ago, we found that this school, while making excellent progress, was coming short, and we applied \$5.72 from the State fund, and thereby saved it from a broken term. Last year, we applied \$1.50 for the same purpose. Last spring its teacher asked us to help her supply the school-room with outline maps. We knew with what good results they would be used under her skilful hand and we applied \$7 for this object; and the beautiful maps which now adorn the school-room, imparting, as we have already stated, a fresh interest to the study of geography, show how judiciously the little sum was used. Last year, as our report shows, we applied from the State fund \$5 to the Rutter School, saving it from a broken term. We applied \$5 to the Centre Grammar School for the same purpose. No other school needed this, as they had full terms without it. We supplied the Centre Primary School with a small dictionary, which cost \$1.50. Two years ago, we supplied the North School with Worcester's large quarto dictionary, by appropriating \$6.50 from the State fund. The following summary will show the amount of these appropriations for the last three years, and it includes all which thus far has ever been made from the State fund:—

For the South Grammar School, in all,	\$20 72
the Centre Grammar,	5 00
the Rutter,	5 00
the North,	6 50
the Centre Primary,	1 50

We earnestly recommend to our successors to follow out, as we have done, the wise suggestions of the Secretary of the Board of Education and

the intent of the law, that the schools throughout the town may be furnished with the requisite equipment, when they are sure it can be efficiently used, that the school terms be equalized as justly as possible, and especially if schools are doing well not to suffer them to be broken up when a small extra appropriation can prevent the evil. The South School a few years ago was behind the others. Now its grammar department is in advance of all the rest. We have appropriated more to the South School than to any other, because its school terms have generally fallen short and because an excellent opportunity offered to begin with furnishing its school-room. The manifest good accomplished shows that the plan should be carried out everywhere, as occasion may require. There has been less occasion to apply anything in this way to the Centre School, because it has the maps of the High School-room and because its terms have been uniformly prolonged by private bounty.

*School Committee.*—EDMUND H. SEARS, JOHN N. SHEKMAN, HENRY BULLARD.

### WINCHESTER.

But no arrangement can ever do away with the necessity for warm and constant interest on the part of parents. In vain will teachers labor, and committees visit and consult, unless the home lends its hearty co-operation; unless the children are questioned, encouraged, and in every way helped by their parents; unless the teacher feels from the homes of the little ones under her charge a kindly and steady support. The children should feel that their parents consider diligence and cheerful obedience in school the most important business of their children. They should know that they cannot count on any encouragement in laziness, tardiness, disobedience, or a spirit of fault-finding.

We wish it were in our power to impress on every parent the evil which is often inflicted on our schools by a few hasty words of unfavorable comment on a teacher,—dropped from the lips of father or mother in the hearing of the children. There is probably not one of our schools which does not suffer seriously, every term, from this cause. Children repeat to their playmates such ill-considered criticism, with the exaggeration natural to childhood, and it works like baneful leaven, to breed, first a spirit of fault-finding, and then of insubordination. There is, at best, much that is laborious and perplexing in the work of every teacher, and it is hard to have the friction of the school machine increased by those whose forbearance and kindly judgment might so smooth and ease it. If the supposed difficulty is slight, it will probably correct itself in time. Schools and teachers will certainly not attain to perfection sooner than homes and parents. "Offences" there must needs be, while schools are taught by men and women like ourselves; and if these are discussed in open family conclave

they will inevitably be magnified. If the supposed difficulty is serious, an opinion in regard to it should scarcely be formed on the testimony of a child. One or several visits to the school, with a view to understanding the teacher's plans, as well as the children's notions, may at once clear up the doubt, and give the visitor many new ideas in relation to school teaching and its difficulties. Such visits will soon convince one that school rules must be general in their application; that exceptions cannot be made in favor of one child without being expected by all; and that it is of great importance to the well-being of a school, that every child should come early, and stay through the entire session. If the difficulty still remains, as it sometimes must, (while fallible teachers and committees are employed,) and if the parent and teacher can come to no good understanding it is very desirable that an appeal should at once be made to the committee, before the matter is discussed and distorted in many mouths, and an impartial investigation and decision is made difficult.

*School Committee.*—FREDERICK WINSON, CHARLES PRESSKY, HENRY HINCKLEY.

### WOBURN.

The point we aim to establish is, that instructors and books in the school-room are to be regarded as *helps* only to the knowledge of God and the works of God; the development of the intellectual powers, the cultivation of taste, the moral affections, the law of conscience. The utmost that can be accomplished by any system of training, and in the longest period allotted to teachers, is only the small beginning of education. It is well, indeed, if such a beginning be made, if such a direction be given to the character and habits of the young as shall prepare them to appreciate the beautiful and sublime in nature, the pure and elevated in literature, and the true and upright and good in maxims, and principles, and actions; to love a flower, a tree, a bird; to thrill with a strange and indescribable pleasure in gazing on a cloud, gorgeous and rich in all the splendors of reflected sunlight, or black with the fury of the tempest, and rent with lightning; and still more, to see only beauty in goodness, though barefoot and alone, and only deformity in vice, though riding in a gilded chariot amid the admiration of a multitude.

To a child thus trained, all the world ministers continual delight, and all things help to carry forward the great process of education, so happily commenced, the formation of a well-balanced character, comprehending in its fair proportions, "whatsoever things are true, whatsoever things are honest, whatsoever things are just, whatsoever things are pure, whatsoever things are lovely, whatsoever things are of good report." That a taste for the beautiful in nature and art, and the refined in literature, is a preserva-

tive from sensual and vicious indulgence, no argument is required to prove. This is hardly more than the converse of the proposition in the child's hymn,

"For Satan finds some mischief still  
For idle hands to do."

Neither do we supersede Christianity, or diminish its importance, in claiming that there is a directly elevating tendency in cultivated tastes and literary pursuits. Nay, we affirm that Christianity itself purifies and ennobles the character partly through its direct and powerful tendency to enlarge the intellect, and refine and elevate the taste. This is in no wise inconsistent with the fact, which is the basis of the statute requiring the daily reading of the Bible in our Public Schools, that Christianity exerts its power mainly through the conscience and moral affections. It were strange, indeed, if the highest ideals of moral beauty, and the nearest conformity to these ideals, were not closely allied to the highest excellence in all those attributes of human character, which, however beautiful, must be held to be strictly subordinate to moral qualities. No other book exhibits such high appreciation of whatever is picturesque or grand in nature as the Bible; no other book contains such exquisitely beautiful allusions to whatever is fitted to excite admiration and please the taste, in field and forest, in air and earth and sea. There is no inspiration of genius, no brilliancy of language, or power of description; no tenderness, pathos, energy, simplicity, in poetry and eloquence, such as the old Hebrew prophets left us. Shakspeare and Milton are immeasurably inferior, in all which constitutes their glory, to David and Job; while the eloquence of Ezekiel, and Isaiah, and Moses, and John, whether for elegance or force, whether for argument, persuasion, or invective, leaves all the orators of ancient and modern times far behind.

There is no monopoly in refined and elegant culture, no caste in science and literature and art. The world of beauty and magnificence is open to all, the treasures of learning, in our country at least, are the birthright of all. We would not persuade every school-boy that he can be President of the United States, or even a member of the State legislature. Neither would we have our young ladies think that the honors of the High School must of necessity separate them from the industrial ranks, or disqualify them to be the wives of tradesmen, farmers and mechanics. Our school system is a failure as relates to one of its main objects, if it does not ally the dignity of knowledge, and the luxury of refinement, and cultivated taste with the common pursuits of life. If our young ladies who excel in scholarship have a talent for teaching, or as contributors to periodical literature, let them use it if they are so disposed. But let them not feel as if the years spent at school were wasted, or that a blight has fallen upon them because they find a livelihood in a school of design, or in the making

of dresses, or sale of goods, or (we would very much like to say,) in household employments. The daughters of eminent German professors, themselves accomplished in polite literature and solid learning, are not ashamed to receive the morning call of a stranger with a bunch of keys at their side, the badge of their domestic occupations and honors. Richard Cobden thought it not derogatory to his parliamentary dignity to employ his skill in designing patterns for ladies' muslin dresses. When there shall be such a combination of intelligence with the every day pursuits of life, as our Common School system contemplates, ladies' dresses will be better made, horses will be better shod, housekeeping matters will be more skilfully managed, and all labor will be honorable.

*The amount of Study which should be required of the Pupils each day.*—Your committee believe this subject to be of the very highest importance, with reference to the health of the rising generation, and not less as regards the most successful mental training and largest ultimate intelligence. The most valuable trees, whether for strength or beauty, are of the slowest growth. If the oak and pine could be forced in five years to a magnitude ordinarily reached in fifty, no one would care to trust himself to a ship whose ribs and masts were supplied from such hot-house productions. Our children receive their school education at the same time they are developing physically into manhood and womanhood. That any confinement in school-rooms, or application to lessons which impairs, in the smallest degree, the development and vigor of the body, is a grievous mistake, no one will doubt. The only point in question is the proper amount of study to be required each day. In the judgment of your committee, this is a point not very easily decided; and what they propose in these remarks is, not so much to decide it, as to call attention to it. They believe that the highest medical skill should be brought to the discussion of the question; and they are most happy to observe, that in Boston and elsewhere, it has been receiving attention now for a considerable time past. Some of the results of these medical investigations they take leave to present, and solicit for them the careful consideration of the fathers and mothers in Woburn.

It affords your committee much pleasure to know that this question, of such vital importance in its relation to education, has engaged the attention of the Medical Faculty in our own vicinity; the result being the following deeply interesting paper, originally published in the "Middlesex Journal," and which has also been printed in separate form for distribution, and republished, with commendation, in the "Massachusetts Teacher" for the present month:—

*Public Schools from the Doctor's point of view.*—At a regular meeting of the Middlesex East District Medical Society, in July, 1865, the subject of the influence of our Public Schools on the health of the children attending them being under



discussion, a committee was appointed to report in full on the subject done in September; and after much discussion, the same committee to prepare, in as concise form as possible, some practical advice for the Board to guard against the dangers now threatening the health of the children in our schools. A second report was submitted to the society in November last, and before, when the same committee was directed to publish the report with such additions in the way of explanation as might seem advisable. It is now do in the following maxims, which may be considered to embody the late opinion of the members of the Society.

1. No child should be allowed to attend school before the beginning of the school year.

Because, the whole of the first five years of life are needed to give the child a fair start, which would be prevented by the confinement to the school-room;—because, up to that time, every child has enough to do to use its limbs and senses, to talk, to obey;—because, experience has proved, that children who have never been to school before the age of five, make more rapid progress than those who begin their school life at an earlier age.

2. The duration of daily attendance (*including* time given to recess and physical exercise,) should not exceed four and a half hours for the Primary schools, and six hours for the other schools.

Because, the liability to injury of both mind and body from sedentary study, is in proportion to the youth of the student; and, because, the same amount of study accomplished in this time as in a longer attendance, which is only a matter of degree, both flesh and spirit.

3. There should be no study required out of school—unless at the end of the day, and this should not exceed one hour.

Seven hours of study being as much as most adult scholars can do, it is to suppose that immature minds in *growing* bodies can endure more.

4. Recess time should be devoted to play *outside* the school-room, even in very stormy weather—and, as this time rightly belongs to the pupils, they should not be deprived of it except for some serious offence; and they should not be deprived of it should not be *allowed* to spend it in study; and no child should be confined to the school-room during an entire session. The minimum recess time should be *fifteen minutes in each session*; and, in Primary schools, it should be more than one recess in each session.

Recess is most important relief to the weariness of muscle and mind. Every child (and most teachers,) feel after being in school for one or two hours. Without it there comes on a mental listlessness and a physical fatigue which defeat the very purposes of schools. The need of such more frequent intervals in proportion to the youth of the child; and, consequently, there should be more recesses in primary than in other schools.

5. Physical exercise should be used in school to prevent nervous fatigue and to relieve monotony, but *not* as *muscular training*. It should be practised by both teachers and children for at least five minutes in every session, broken by recess, and should be "timed" by music. In Primary schools, the half hour should be broken by exercise, or singing.

This maxim rests on the same general ground as No. 4. Such exercises are highly prized in all schools where they have been fairly tried, and they tend to produce a unity of action and feeling, a homogeneity in the school which is essential to its success.

6. Ventilation should be amply provided for by *other means than* opening windows, though these should be used in addition to the special means during recess and exercise time.

open windows during cold weather, is to admit streams of cold air, when they are most liable to "catch cold," as physicians have frequently observed. When the body is aglow with exercise, it can endure temperature and even a current of air, which would chill it when at rest, fresh air may be introduced with safety through the windows and exercise time, except in very severe weather.

Methods of heating, a close stove is the most objectionable, because it excludes fresh air; and whenever one is used in a school-room, it should be partially walled in with metal screens, inside which a "cold air box" is placed in all furnaces.

Time should be scrupulously apportioned to the average capacity of the Primary Schools the slate should be used more, and books less, and should be given as much as possible on the principles of "Object

part of this maxim be not observed, the majority of the scholars (for the school is sustained,) will be overtasked.

Advantages of using the slate as advised, are very great; the hand and the mind, writing is earlier and more pleasantly learned, little children are profitably occupied, when they would otherwise be idle, unhappy and idle.

"Teaching," we have only space to say, that the principle which should be that the teacher should avail himself of the natural preponderance of perception and observation in childhood, should go from the unknown, from the concrete to the abstract, and should neglect no opportunity to illustrate each lesson from familiar sources.

signed,)

F. WINSOR,

J. D. MANSFIELD,

*Special Com. Middlesex East Dist. Med. Soc.*

Committee.—J. C. BODWELL, JOHN JOHNSON, JOHN CUMMINGS, Jr., STEPHEN POLLARD, S. W. ABBOTT.

## WORCESTER COUNTY.

### ASHBURNHAM.

Apportionment of the income of the State School Fund in July, 1866-7, will be allotted to any town which has not maintained its Public Schools for the period of six months the previous year.

Consequently the schools of the year 1866-7, must be six months in length to avoid the forfeiture of the money from the school fund.

It is noted by the town, that our fourteen schools are to be kept open eighty-four months in the aggregate, but that each school is to



be maintained six months, which increases the difficulty of carrying the law, as we may point out farther on. To sustain schools for six months we estimate the sum to be raised by taxation, as follows: twenty-eight schools in all. This year six were taught by male and twenty-two by female teachers. If this proportion should continue, there will be eighteen months of male teaching, and sixty-six months of female teaching.

18 months, at \$50 per month,	would amount to	900
66 " " 26 " " " " "	"	1716
21 cords of wood, (1½ cords for each of 14 schools,) at \$7 per cord,		147
Taking care of fires, &c., for 10 schools at \$2.50 each,		25

Total, . . . . . 1148

Taking from this the school fund money, about \$100, would remain to be raised by taxation. Although these estimates are in some items too high, yet in others they may be too low. Considering the increased price of board, and of services, it is believed that the sum as large as this must be raised in order to insure six months of teaching to each school.

A similar calculation, on the basis of five months of instruction for each school, (which surely we ought to secure,) would require a tax of \$1,148 for this year, and \$2,352 after this year, making a difference of \$1,204 between the year 1866-7.

This sum can be diminished in three ways: 1. By uniting the towns of Nos. 1 and 11, and by diminishing the number of outlying schools. Eight schools would answer the demands of the law. But, by a judicious arrangement, can eight schools supply the requisite school privileges? The subject is beset with difficulties, yet, *perhaps*, it might be found practicable, that one or two districts could be dispensed with without injury to any one. 2. By employing exclusively female teachers in the practice of some towns. If we had a High School, perhaps it might be practicable here. As it is, we cannot think the measure true, however, that an experienced female teacher, of tact and ability, would be preferred to an untaught, unpractised, male teacher. 3. By employing teachers but indifferently qualified. Doubtless, a shrewd Yankee would drive some favorable bargains with such. The quality of the education, however, would suffer.

We wish now to present some thoughts to the town bearing upon the organization of our school system. Of course, there will be different opinions in respect to the positions here taken. The presentation is honestly entertained after some observation, and coming, as the

source, cannot, however, do harm, if they are manifestly correct, they demand attention.

As to this new law, and to similar ones, because they overlook the value of popular government, and the proper function of towns. Government is the jewel of our governmental system, and its value is well known. Towns should be invested with power within certain limits, over matters pertaining to their welfare, such as schools, and should have some freedom of action, some scope for contrivance and choice. A generous trust should be reposed in them. So they will not disappoint. They will govern themselves better than we can govern them. But even if this were not so, the education and the self-government they gain by self-management, is worth far more than any little deficiencies of arrangements. It is a grand school in which executive skill upon a small scale is acquired, fitting for a broader field. Is not the past record of these towns noble, a solution to the present day? Have they not done well for themselves, self-moved, and without any impending rod of wrath? Look at the large amount of money expended for neat and tasteful buildings in the country towns, and for instruction, entirely beyond the requirements of law, and, indeed, without any consideration of such requirements. The country towns prize their schools, and would limit their expenditures only by their ability, and only so as these gifts shall not be in anything they are unanimous, it is in the support of schools. At least some of them, do not love to be put in a strait jacket, and are concerned just how to cut the coat, and where to put every button. They are attached to local self-government.

Shall we think of six months as the least term of the continuation of a school? This limit was first placed in the statutes in 1859. By the Revised Statutes, towns of fifty families were required to maintain schools which, in the aggregate, should be continued six months; of 100 families, 12 months; of 150 families, 18 months; of 500 families, 24 months. It was quite a stride forward in 1859, when, in the country town, 84 months were required instead of 18. Nor do we expect that all would attain this standard at once. In 1859 we wished so to frame the chapters on education in the General Statutes that they might remain the law for a generation or two. If this standard is inserted in the law as a standard of length to be aimed at, and is to be realized, it was well enough. If it was intended to be a requirement at once, by heavy penalties, it was a mischievous requirement, altogether unlike the liberal legislation of the preceding twenty years, and unlike that other item of law, which required every town to maintain a school, a sum equal to \$1.50 upon every child between five



The proper length of a school, in our view, depends on the circumstances of the cities, large towns and villages, and of the country towns, and the country towns among themselves. The ground of difficulties about our school laws. The cities think that the towns may have schools for a term as long as the towns, and that school districts and the selection of teachers, by committees, are only a relic of a dark past. They are sure to be as good for us as it is for them, and being in the majority upon us regulations fitted to compact populations, but not to cities, with the very benevolent motive indeed, to save us from sloth and absolute barbarism. The men at the head of the operations, gentlemen of large ability and high character, mostly, from our cities or large towns. Can they know the condition of the towns, as long residents in them do? They honestly believe the city methods to be the only orthodox ones, the measures for the improvement of the schools, are the abolition of the district system, and, failing in that, the selection of teachers by a committee. If these could be realized, the school millenium would be at hand indeed. We do not sympathize with this view, with the thought of these measures. The spirit of a people, if rightly developed, will, through any forms, (though some forms are more effective than others,) and will, in free development, correct the forms, if the spirit of a people is deficient, forms alone will not beget it. If various forms were abolished by force of law, to-day, the same would remain to-morrow, with eyes just as blind, and movements just as slow and awkward, in the view of their critics, as to-day.

One important difference between the cities and country towns is, that the children of the cities have no healthful out-door occupation, which they are, or can be, bred. By consequence, schools for them are necessary to preserve them from constant idleness, which is the name for ruin. Long schools are a necessity of the condition of the city populations. It is otherwise in the country towns. No healthful occupation for them, but the condition of things is different. And four, five or six months of earnest study, with a year spent in labor, will make more energetic and successful men than ten months of study without it. The school educates. The Prussian boy probably excels the American boy in knowledge. But which develops the most enterprise? We remark that the country boys become the successful business men of the cities. This question has been proposed,—Why have not the great commanders of the first class arisen in New England? By whom the commanders are here meant, not merely those who are thorough in the science of war and government, but those who have

great measures and plans, and to execute them. We take no part in this question. It may, however, excite to useful thought. The interrogator entertained the belief that the physical man is more fit to do in forming great characters, and that we in New England are more apt to forget it in our zeal for schools. We are erecting more and more of our seminaries. We have some excellent ones in the country. We have some excellent ones in the country for the cattle upon the hills, in our hay and cornfields, and in our woods of pine and oak. We want a little time to practise in them. The country youth need some employment giving health and vigor. The country youth, at night, calling imperatively for repose instead of the midnight revel, are a blessing. Another important difference between the country schools, is this,—the youth of the country attend to a greater extent than in the city. In the Twenty-Eighth Annual Report of the State Board of Education, it appears that in Boston about one-sixteenth of the attendance was over fifteen years of age, and in this town about one-eighth. *i. e.*, the attendance over fifteen is in the ratio of four to one in the country town. So that our short terms of school are in part made up by attendance for more years.

The cities have vastly greater ability. By the aforesaid report, it appears that Boston has 277 schools, the average length of which was 11 months and 11 days; that it paid their male teachers, on an average, \$42 per month, their female teachers, \$42 per month. In the same year, the country had 14 schools, of the average length of 4 months and 15 days, and paid their male teachers an average of about \$40 per month, its female teachers, \$19 per month; and yet Boston was taxed for the support of its schools but  $1\frac{3}{8}$  mills upon the dollar of valuation, while this town was taxed  $1\frac{2}{3}$  mills upon the dollar, or almost twice as much. Is it not a little ungracious for the cities and large towns to take for their own share of the tax-pittance due to the small towns as their proper share of the tax, while those very towns are paying nearly twice as much as the cities for schools so short, and so indifferently provided for, compared with the cities?

We know it is replied to this, "reduce the number of your schools." It is true, if our population was compact enough to have but eight schools, and those graded, we could maintain each of them for six months and thus save the tax we now impose. In that case, our relative amount of taxation would be reduced. We have repeatedly urged upon the town the duty of reducing the number of school districts, if it can be done without serious inconvenience. Eight schools cannot furnish proper school privileges to our population. The position of the centre of the town, and of the ponds and large hills, and the direction of the roads, are all considerations of the hard problem. Even as it is, it is very difficult in winter great storms for the children to get to school. The Secretary of the Board of Education admits that there are sometimes real difficulties



about reducing the number of the small districts. But have "actually existing" difficulties to be punished as delinquent for that reason?

Farther.—We object to six months as the least limit of schools, because we believe in many instances a shorter term is more profitable. The value of a term of study does not depend upon its quantity, as its quality. The quality of a school depends upon the teacher, the interest of parents and scholars, and upon the public opinion. Any lack in either of these directions is a hindrance, a fatal hindrance. And, between these several parties, it is often the case that much money is wasted. The question is, what term is best, or will be well improved? After witnessing the operation of schools for some years, we are of the opinion that no school retains its interest so protracted much beyond ten weeks. This is particularly true of the summer term. Rarely does a school flourish after the first term. Five months of instruction for each of our district schools would meet our view of the wants of the town, in many instances. Some of our districts have, at times, chosen to employ teachers of large ability and experience, at a heavy expense, and to shorten the term of study to eight or nine weeks. It has been a judicious course in our judgment. The town may well tax itself to maintain a school longer than eight weeks, in the thought there is no waste of money. The tendency of the law in question will be to increase the expense of the quality of the Public Schools. If a town, saving \$100, will lengthen its term of school, will it not employ more experienced teachers at a saving of \$300 or \$400? Certainly the spirit of the people is higher than the spirit of the law. Woe to the schools, if it should not prove to be. And our object is to us a correct one. If unflagging interest exists at the close of another term will be welcomed and improved. A keen interest in study helps digestion; a surfeit induces disgust. A boy who is idle of spending money will waste it and harm himself. A boy who is supplied will husband his. We would not send rollicking boys to school for four years of idleness and frolic. Nor even honest boys, if they will, nor even with, sometimes. Let him follow the plough or the counter, as he desires. Courses of study do not always succeed, sometimes overwhelm and weaken. All that some men get out of college halls, is a *loss*,—even the loss of good common sense. Naturally robust and vigorous may have all the stiffening of the process. And some, who will never shine as scholars, are thoroughly educated in other directions. What then? Do we neglect human learning? No. In this stirring age, with great progress and in the prospective, with an active competition for

are and destiny of a great nation coming into their hands, the  
 and be astir, and prepare themselves for their position. Mental  
 and accumulation of knowledge will aid them mightily. It is  
 e regretted, if they, and their friends for them, do not value  
 these blessings. But will lengthening the schools remedy the  
 It will only increase the waste. For, assuredly, with a long  
 e will be time enough for absence, idleness, play, diversion of  
 study through every form of amusement, to those who already  
 value on an education. The remedy must come in another way.  
 ver our present opportunities are well improved, we advise an  
 them.

r, we object to this law, because it will be difficult of execution.  
 at six months, we shall be very liable to come short of it in  
 our fourteen schools. Sometimes epidemical, or contagious, or  
 es, break out in a district, and a large part of the scholars are  
 home, either by the sickness, or by the fear of it. The useful-  
 school is gone. So, sometimes, troubles arise, and nearly all  
 leave. Also, the law provides that children, with some excep-  
 attend school twelve weeks in a year, under penalty of fine, &c.  
 y remain at home after the legal term is ended. In the first  
 e might have a school of the dimensions of that of the famous  
 district, which had four scholars, and made remarkable advance-  
 . In the other case, a school must be kept with no scholars at  
 ng of brick without straw, most certainly. But in no case has  
 y discretion. A school must be maintained, or the town be  
 delinquency.

er.—The greatest difficulty occurs in consequence of our school  
 ts. If the law was framed with the design of crushing, indi-  
 school agencies of the country, it could hardly be more effective.  
 e it. Each school must be kept six months. Eleven different  
 to make the contracts. They are at liberty to hire male or  
 bers, and at any price they please. In this condition, how can  
 make any specific allotment of funds to any district, or raise,  
 specific sum? For no one knows how much will be needed.  
 aid, the prudential committee must expend no more than is  
 n. Then who knows that he can, or that he will, secure the  
 of instruction? And if any district fails of reaching the stand-  
 ool fund money is forfeited. But it will be said, "Let the  
 ittee contract with teachers, and a uniform rule will be estab-  
 throughout the town." The town, then, needs to understand the  
 advantages of the town and district system. We propose to  
 thoughts upon this subject. The school district system is cer-  
 in theory. It is democratic. A certain number of people in a



given territory assume the management of school matters, and equip their school-house, select their teacher, subject to the action of the school committee, watch over and care for the school, educate the people by giving them duties to perform, require good and good judgment. 2. It tends to create attachment to the things for which we labor and make sacrifices. 3. It secures the vigorous support of the school. Forty, fifty, or more persons exert their influence to bear upon the school for its good. It is the supervision which has produced some of the best schools we have seen. It is almost omnipotent when enlightened and faithful. It is altogether the most efficient form of maintaining a school of excellence so long as this watchful interest can be secured. And directed labor will often work a wonderful change in the activity of a district. We believe the district system was a great teacher of self-reliant habits of the people, and that it has done a good deal. It should be blind to the condition of things, however, not to see that a change is coming over the people, which will operate to the efficiency of the district system. There is not the same leisure formerly. Every person, almost, is fully occupied at every season of the year. They have not time to visit the school. And, by their other business, their thoughts and interest are turned in other directions. These facts are more manifest in villages, but pertain more or less to all districts. It has been suggested that one of the benefits of the town system would be the immediate reduction of the number of small schools. It is not clear to us that it would have any such effect. The town system would give the town more power over the schools, and simplify their management; but the same interests which operate in the schools where they are, would be as powerful after the abolition of districts. As to the erection and repair of suitable school-houses, no plain that either system would have much advantage over the other. As to expensiveness, the taxation would be greater under the town than the district system, because in the districts, hiring teachers, conveying the school, &c., &c., are done gratuitously, while everything is done for by the town. The real expense, however, might be more equal.

In respect to the best mode of selecting teachers, much has been said. All will agree, that he who procures teachers holds a most important position. Learning is not the most important qualification for the teacher; good judgment is more needful. It is the custom, in some quarters, to let prudential committees—to represent them as mercenary, hiring the best teachers; as selfish, employing their friends or relatives, whether qualified or not; as uncaring, engaging the first person who offers himself. Some may answer to this character. But it cannot justly be

class. We have in our acquaintance fallen in with many, who are citizens, men of intelligence, who have been careful in making selections, and who have been firm friends of the schools. Doubtless, school committees would be liable to the same charges. Laying aside these considerations which will inevitably be made both by school and prudential committees, we would sum up the case about as follows:—1. The prudential committee, residing in the district, must be intimately acquainted with the district, and be able to procure a teacher adapted to them. 2. Being in the district, he and his backers must be committed in favor of the district. 3. Being on the ground, he must know the state of the school, and be able to meet promptly any evil in its incipient stages. 4. School committees must have more acquaintance with teachers, and with their qualifications, and be able to make better selections in that regard. 5. In office, they might become well acquainted with the wants of the district of the town. 6. There would be more unity and system in the management of schools, and in the expenditure of the funds of the town, in the management of a central committee. 7. The school committee can be made rigidly accountable. If anything goes wrong, the responsible party can be easily found. There are so many partners now in the management of the schools that no one of them feels much responsibility. Spoken thus briefly on topics which will assuredly assume practical importance some time, but with no expectation of a change of system. Indeed, we should regard it as a calamity if the town should change before the people were ready to make a fair and candid selection. A committee could succeed without an almost unanimous popular

objection to the law is, that it will impose a heavy pecuniary burden on the people. We have just come out of a great war. A heavy tax has been incurred. An unprecedented taxation is the result. Why men own property not subject to taxation. To poll-tax all the same, whether \$10,000 or \$25,000 is assessed. This law lays a heavy burden upon owners of visible property, especially small real estate owners, and men of small income. For this reason or no other, this law ought to be repealed.

In addition, by offering one or two other thoughts. We would point out what we regard as a capital defect in our State Central School agency. A fund of \$2,000,000; a Board of Education and its Secretary; Normal Schools; five or six teachers' institutes, spring and autumn; Teachers' Associations; a periodical for teachers,—all of which are supported from that fund, but not one agency which appeals directly to the people. It seems to be assumed that the community can be reached by these reports, teachers, school committees, &c. But it is not the best way. The people are reached only in a limited degree



by these agencies. The schools will be elevated just as the people stand their duties. *Preaching to the poor* was the Great Teacher's motto. Move the masses, and you move everything that is above them. It leads us to say, that we need for our highest prosperity a town meeting, for discussing school topics, in every district. To revive interest in schools, we must resort to our old methods. We must rely on ourselves. Our schools need to be elevated. They can be only by our interest. Infusing new life by discussions before the people is the remedy for school ills. We have given our opinion of the new system; we do not advise disobedience to it. Forgetting every irritation about it, let us do everything we can to improve our schools.

*School Committee.*—J. D. CROSBY, C. E. WOODWARD, F. A. WHITNEY.

### AUBURN.

We find that it requires the combination of several things to make a school: a good house, a good teacher, good scholars and good parents. Lack of either one takes so much from the end sought, viz.: a good school.

Your committee are confident there is great waste of money, and injury to the schools by so frequent change of teachers. With frequent relocations, the same teacher has not taught the same school two consecutive terms within the past five years, and only one has had charge of a school through the year covered by this report.

We wish to call the attention of our citizens to this point. To test its workings, suppose a stranger is employed to teach in either of our districts. He brings with him satisfactory credentials; he sustains an examination before the committee; they give him a certificate of approval; he goes into the school. The scholars now are to make their examination, and give their approval or disapproval. They will first comment on his personal appearance. It will please some and may displease others. His arrangement of his classes; his methods of recitations; his manner of teaching and speaking will come under review and will be measured by the qualities of some former favorite teacher. Then follows a series of questions to test the quickness and sagacity of the teacher in detecting errors in checking liberties and in answering puzzling questions. The examinations continue, one, two or more weeks, during which it must develop a master. All this may not be definitely planned and each party may be set to a particular individual, yet most will be ready to do their part for their success. We have known cases where this strife for the mastery has lasted for weeks with varied results. Sometimes the teacher is victorious, then again the scholars. During these weeks of struggle the children are closely questioned at home of all that is done and said in school. The parents accustomed to credit their children implicitly

They give their version of what transpires. They may report and they may not. They are not always the best judges either of parents or of schools. They may pronounce encomiums upon those who are obedient to them and anathemas upon those who maintain strict discipline and exact obedience from all without regard to age or rank. This love or dislike must and will give color, favorable or unfavorable, to their report. Hence parents may flatter themselves they are having an excellent school, when really it is well nigh a failure. Again, they may have fears for the school when it is only passing through changes for

the purpose of prevention of the evils alluded to at once arises. What we have intimated the answer :

Be more careful in the selection of tried teachers.

As you have found those well qualified and successful in your school, retain them for a series of terms.

Committee.—CHARLES KENDALL, S. A. NEWTON, Jr., JOEL CARTER.

### BERLIN.

What parents do at so little effort and expense, to so great advantage, and publicly, as in giving an occasional half day to the school, our committee feel sure you would be interested. In every school there are pupils whose attainments will interest any person. If you will cheer you to look into so many laughing eyes. It will break the wrinkles out of your faces to look upon so much youthful beauty. It is no home a better father or mother, besides having done a public

in some way, make our Common Schools take the place of a college. We could make selections now, in some cases, of classes, and could not fear to send into High Schools for a test. But this is

We can, with care and co-operation, and a little more perception, give our schools a High School standing. Be very careful in the selection of teachers. Talk up the school interests through the town. Let the children know the public heart, and public eye are upon them. The town gives money cautiously but not grudgingly. That the school is held to an account for what is bestowed so freely upon them. A scholar who wilfully hinders a teacher's success, or perversely neglects his school, is known and read of all the town. Keep up the power of public sentiment in favor of all good conduct in school, and a public opinion that all that is wrong.

In the change of High School attainments we do not mean that the basis of our School studies should be changed. A few advanced studies are to be added, as our scholars have no other opportunity. But it is the



Common School branches we would cherish and cultivate. accomplished American scholar, Mr. Everett, says : " The Common School gives to the mass of people the key of knowledge. The branches therein are of greater value than all the rest which is now-a-days in a school. Our Common Schools are important in the same way as the common air, the common sunshine, the common rain ; invaluable for their commonness. They are the fountain of that wide spread intelligence like a moral life, pervades the country." Do not repine, citizens, we have only the Common School. It is the key which unlocks the treasures of knowledge. A Common School education, such as we have, will, so far as success depends on education, put any young man or woman, lady, in the way of obtaining any advantages which society has to offer.

*School Committee.*—W. A. HOUGHTON, E. HARTSHORN, WM. BASSETT.

### BLACKSTONE.

It is not known to the subscriber whether the retired member of the committee agree with him in his opinion, but to him there appears a disproportion between the compensation of male and female teachers. There seems no foundation but in custom, for the almost universal practice of paying male teachers almost double the salary that female teachers receive. In former years there was a propriety in this ; when the male teachers could give up four years to the thorough training and discipline in a Normal School while there were no such institutions for young ladies. But now that this state of things is changed. Our Normal Schools are equal for both. Indeed there is a larger proportion of young ladies in these schools. And with the same training, I believe most competent observers will admit that female teachers are the most successful in the general thing, they have a tact, skill and readiness in imparting knowledge that male teachers must in vain hope to rival. And even in the order and discipline in school—where it may be imagined to be most likely to fail—even in this respect they seem quite as successful as the supposed superiors of the other sex. The time has come when more enlarged views should influence those who control our Public Schools. The amount of compensation should be awarded according to the ability, the ability to impart instruction, and the experience, habits and superior attainments of teachers, without regard to sex. It is at least is claimed without fear of contradiction, that young women become better qualified to teach under the advanced method practised in our Normal Schools, than young men can be, anywhere else. This is not a question as to the advantage of a scientific or professional institution, for other purposes. But for educational purposes, the Normal School, which is organized

d for this very end by some of the most experienced and skilful  
 ve have in the country, ought to bring about this result, and will  
 ers are animated by as much enthusiasm and ardor, as char-  
 n in other professions. Hence we argue, that with equal abili-  
 respects, the teacher who has received a thorough education  
 l School, is best qualified to instruct successfully ; and that these  
 vantages more than make amends for any supposed "higher  
 hat men possess as instructors. Some remarkable instances of  
 s in teaching by ladies, has made it clear that this profession at  
 that men cannot monopolize, and we see not why they should  
 olize the high salaries.

he past year the town has taken two steps in the right direction.  
 g the number of districts from ten to eight, and in starting a  
 ol. This last enterprise was uted upon the town in consequence  
 rests. But we should feel no less thankful to the prime movers  
 and useful direction, and we should feel no less grateful to  
 who caused a law to be passed, imposing a heavy fine upon the  
 iled to establish a High School. We care not what motives  
 own to their duties, so that the great blessing of a good educa-  
 e placed within the reach of all the young in the town. The  
 is established, and in the words of the member of our committee  
 us, "it is a great success." With this opinion your subscriber  
 , and another step forward is soon to be taken in the same  
 A new and fine building is to be erected at once, which when  
 will be no discredit to the good taste of the designers or to the  
 le pride of our citizens. And if our fellow-townsmen can only  
 to forego their local interests and private preferences, and to  
 onal aims, and in choosing a teacher to seek for the best pos-  
 an be obtained, instead of making the office and the salary of the  
 bone of contention among personal favorites, the High School  
 e in future years "a great success." It is to be hoped that the  
 vince a still larger liberality in procuring both a philosophical  
 al apparatus, so that these studies can be taught more thoroughly  
 fully.

ommittee.—J. E. EDWARDS.

## FITCHBURG.

k of public instruction, of forming the minds and moulding the  
 generation, as it is of immeasurable importance, so it is, when  
 nsidered, one of the greatest difficulty, with which a community  
 d itself. We do not think it is necessary to enlarge, to much  
 n this, for we trust the day is long passed when it was believed



that while no man could make a coat, mend a boot, or shoe a pair of shoes out first preparing himself by a long and laborious apprenticeship; nevertheless, without any previous training or special aptitude, he, perhaps, good for nothing else, was still good enough for the difficult task of unfolding the human mind, and properly directing its various powers. Nor do we think reflecting men now believe, as they ever did, that a system of public instruction can thrive in a community which is not thoroughly sensible of its importance, and ready to support it by every fostering influence in its power to exert. But still there is not yet a general and full appreciation of the importance and duty of conducting a thoroughly successful system of public instruction, and of the subtle, powerful and various influence which is exerted by the community in which it exists; and this doubt must be removed by the general remarks with which we have prefaced our report. As our citizens become more and more impressed with the importance of education that has devolved upon them, with its necessity to the general safety and happiness, with its value simply considered in the advancement of the intelligent economy, and in view of the future resources and prospects of the State, so our Public Schools will gradually be elevated to a commanding position of usefulness. The improvement may be permanent, will be permanent and general, and while the community improves, and liberal policy upon the schools, the schools in return, will exert an influence ably on the community.

*Primary Schools.*—The first step, in any undertaking, is to determine the most important, and in the work of education, the teacher, first of all, it is to first stimulate and direct the mental powers, has a delicate and difficult. No impressions are so deep and tenacious as the impressions, and upon the kindness, firmness and intelligence with which a child is disciplined during the first years of his intellectual training, his good measure depend his future habits of thought and action. If the kindness properly tempered with firmness, the affections may be influenced all potent for good, if properly directed, obtained. By blending amusement with instruction, the child may be taught to regard the school-room, and to regard the hours spent in it as a season of pleasure and not of painful restraint. By stimulating the curiosity and directing the newly awakened intellectual powers the exercise at school may be a positive pleasure instead of an irksome task. The cultivation of neatness, attention, industry and subordination, once impressed upon the plastic mind and character of early childhood, will, in most cases, be permanent. The Primary School, like all others, to be successful, needs a teacher with a peculiar aptitude for its duties. She is not fit for the place unless she possesses the power of instinctively, as it were, to trace to herself the love of the children—a power which if traced to

d, we think, to spring from a deep and sincere love for children. It prompts a kindness of manner, gentleness of voice, and a forbearance and patience that nothing else can give. It entirely banishes the school-room that severity, and sometimes habitual harshness and that harden the bold and self-reliant to a sullen defiance of all and crush the timid into habits of falsehood and deception. But, by a wise discretion, it does not prevent that firmness which hesitating obedience, and administers correction whenever found necessary.

**School.**—A change has been made in the system of study. The next period will occupy four years, and each student completing his course honorably will be entitled to a diploma. There are three courses of study, one English, one English and classical, and the third classical; the latter to be taken by those who intend entering college. A plan of studies in each department has been made with great care, and it will prove generally satisfactory. Those who desire a plain, practical education will pursue the first course; those who wish to attain to a high education, to become familiar with the classics, but do not desire to enter college, will take the second; while the third is intended for those preparing for college.

Reasons for adopting a definite course of study in the High School have been presented and seem to us decisive. In the first place the authority of our institutions of learning, from our more prominent Private Schools to our colleges, is in its favor; and prescribed courses of study have been generally adopted in the High Schools of our cities and towns. An uniform course of study has also, for many years, been pursued in our Grammar and other Public Schools, and with entire success. It is, moreover, quite evident to any one conversant with our schools that what the pupil shall study is second only in importance to the manner in which the study shall be pursued, and that he needs guidance in the selection of his studies as much as to the other. It must be borne in mind that the Public School is designed to meet the wants of a community, and not to accommodate the peculiar views or wants of a few. Now it is evident that the great end of education is not so much to store the mind with facts, or to give information upon particular subjects, although these are important, but to have their proper consideration as subsidiary ends, as to cultivate and develop the intellectual powers; in other words, to afford that training that will best prepare our youth for the duties of active life. The experience of more than a century of one of our institutions of learning has gradually determined what course of study best subserves this end, and the course thus ascertained to be most effective should be made a prescribed and necessary element in our schools as the basis of the moral and discipline that is given in connection with it. It may be



that in some individual cases a departure from it might be desirable. Schools are planned for the good of the whole and not to meet individual instances. In the next place, the uniform progression of the course is secured, and at the expiration of each year the unity of the class is unbroken; and experience has shown that not only is much more interest in study awakened in those who go along together through a definite course of study than in those who have no common aim, but advancement is more rapid; but it is also found that a class association and attachment on the part of the pupils is one of the strongest incentives possible to a regular attendance in a full course. In other High Schools in which the system has been introduced, it has been found that while the first graduating class was extremely small, in some instances not more than three or four, it has since have invariably increased in numbers as the annual close of the year came round.

Perhaps, however, one of the most convincing arguments for the adoption of a regular system may be found in a statement of the difficulties that resulted from the desultory and aimless method hitherto pursued. In the first place, each scholar being at liberty to pursue his own studies, all distinction of regular division and relative advancement was lost, and unless the school were to be divided and subdivided into mere fractions of classes, far too numerous to be attended to, the number of the teachers were doubled, the necessary result was that the course embraced almost every stage of progression from the beginner to the most advanced. Scholars too were constantly taking branches, for the reason that the division of which their previous studies had not properly qualified them for, which, consequently, every step was embarrassed with unnecessary difficulties both to themselves and to their teacher. It was also found that the caprice, weariness, or other improper causes, changes from one course to another were being constantly made, and the end of the year found the pupil with many branches commenced, half mastered, and many more and so without any profitable fruits whatever. The teacher also, who could not control the course of study of his pupils finds it much more difficult to discipline and govern them. The conduct of a scholar who has no definite course or plan of study before him, and does not feel the necessity of giving a particular time to a particular thing, will not, as a general rule, submit himself so readily and implicitly to the discipline of the school as he who to whom such independence of action and facility of change are necessary. And finally, with no definite object before him and the association of the class community of study to bind him, the attachment of the scholar to the school will be but slight, and at the best he will regard himself as temporarily attached to it, and as ready at any moment to dissolve his connection with it.

*School Committee.*—ALFRED MILLER, C. H. B. SNOW, GEO. D. COLEMAN, J. W. CLEAYES, HENRY L. JONES.

## GRAFTON.

*School.*—This school was organized twenty-seven years ago, and has many scholars. Said the General School Committee of that year, "our committee have no doubt that the existence of a High School, with such requisitions of admittances as have been adopted, would exert the happiest influence on the district schools, and would raise their standard of excellence. A motive to thoroughness and completeness in study is presented, such as has never before existed." The results have justified their opinion. Never was there a time, probably, when there was so many anxious to secure the needed qualifications, that they may enter on to the High School. And never was there a time since its establishment, when so large a proportion of its scholars have come from the districts of the town, as at present.

A goodly number have here prosecuted their preparatory studies and have been enabled to enter with credit to themselves, and in the college in which they fitted. Two have thus entered, this past year. A number more are laying, deep and broad, the foundations of a liberal education. And others still are cultivating and enlarging their minds by classical studies and the higher mathematics, who have a professional course in view. There will be room enough, amid our rapidly increasing population and extending territory, for all who may be fitted by education for positions of influence and power. And if we wish to make our children worthily occupy them, we must give them the best moral and intellectual training.

*Committee.*—THOMAS C. BISCOE, GILBERT ROBBINS, JOHN W. BIGELOW.

## HARDWICK.

Now looking for the dawn of a brighter day upon our educational prospects. As the district system has been abolished, and the town has elected a committee to erect new school-houses and re-locate and re-arrange others, wherever, in their judgment, it seems necessary to the advancement of our educational interests, we feel that some of the hindrances to the success of our schools will be removed. In all probability, the best locations will be selected, and the new and re-modelled school-houses adapted to the accommodation, and to facilitate the progress of the scholars to be gathered within them, and furnished with the necessary apparatus. The place and its surroundings have an influence upon the character of those who come there for instruction. Refinement is secured through the privilege of refined society. External influences contribute to the refinement of taste. This should be considered in selecting locations, and in preparing and furnishing build-



ings where children and youth are trained. Everything should be done to promote the mental and moral improvement of the young.

The school committee would repeat their recommendation to appropriate money for a select or High School, for some time or more in a year. It will save the expense of sending our youth for such instruction, and exert a most favorable influence upon the progress of education in this place. It will tend to elevate our Community. It will not only conduce to the mental and moral improvement of our youth, but will have a tendency to increase the value of real estate. It will more elevated the character of our schools—the greater the amount of education afforded here, the more desirable will it be as a place of residence. In proportion to the desirableness of a place for residence, so will be the value of real estate. Persons seeking a location for the residence of their families, will be influenced, not only by the fertility of the soil, but by the privileges for education—the intellectual and moral condition of the community. Does not property rise with the elevation of society? Does not the reputation of society attract persons more strongly than any other consideration? Would not such a school tend to the increased elevation of the community? Would not the necessary expense be small compared with the advantages it would secure? Would not your property increase in value in proportion to the improvement of such a school? Should it be one of a high order, would it not be a reward to the people for all their expense and trouble?

*School Committee.*—MARTYN TUTTER, SAMUEL S. DENNIS, BENJAMIN

### HOLDEN.

*The Difference.*—Some schools are slow and dull; others are lively. In some, great heedlessness and lack of interest are shown during recitations; in others, on account of some ingenious and original questions of the teacher to elicit attention, the eyes and ears of every scholar are open to receive and treasure up knowledge. In some schools the scholars move along in old and well-worn ruts. It is essentially the same every day, week after week, and month after month, from the beginning to the close of the term. If the exercises should be in the slightest degree varied, the school, so accustomed to a beaten track, would be thrown into great confusion. If the teacher should happen to use any but his accustomed accents and tones of voice, the scholars are startled as if he were becoming a little crazy. This humdrum method of conducting schools is a great hindrance to progress. Little improvement is felt. Little proficiency will be made. It is a serious evil.

But we are sometimes favored with schools of an entirely opposite character—in which ruts and worn-out paths are studiously shunned.

development and illustration are continually sought and applied. The mind becomes weary of any course, the policy is to tack about and in another direction. In this way interest is excited and continues a pleasure to study, and a still greater pleasure to go to the Vivacity and vigor and zeal are the characteristics of such. The chief occasion of regret is, that they are so few. Such are as valuable as they are rare. A deplorable defect of many is a lack of wise and well-directed energy. Whoever will do whether the parents of those who are preparing to teach, or their instructors, to inspire them with more practical vitality and energy, and their strength in vain, but will be great benefactors to our country to be a profitable teacher, one must be enthusiastic in his mind and soul, and his body, too, must be in it.

*Conclusion.*—The success of district schools depends in a great degree on the harmonious action of the various interests which they represent. They are like a somewhat complicated machine, every part of which must perform its own specific portion of the work to be accomplished and with precision, to secure a good general result. The town, the district committee, teacher, parents and scholars, jointly and severally have important duties to perform, which cannot be delegated, and cannot be omitted without seriously deranging the whole system. There is conflict of opinion, or of spirit, as there sometimes is, the result is not but be damaging to both learning and morals. In our schools, the results from neglect to perform important duties by some parties are indispensable to good success, than from unhappy conflict between different interests. Withholding all action from an enterprise may have even a worse result than acting unwisely. It may be that the various wheels of a machine should run irregularly, than be stopped.

When schools fail to accomplish the amount of good reason expected, some are quite prone to charge the blame to the committee. The responsibility does rest mainly on them, and perhaps none of all who influence schools, and all who ought to exert such influence should carefully inquire how they stand on this important point. They should consider whether they are acting harmoniously and efficiently with those who are enlisted in the same cause; whether they are doing their duty from them in the relation they sustain to the schools.

*Influence.*—That which is good often becomes, when perverted, a bad influence. The social element in school relations is peculiarly active and influential, and is consequently productive of important results. They may be for good or evil. In most schools there are some whose example and influence tend to vitiate and corrupt. Many scholars of decided talent and great social power are exceedingly impure, and they easily influence and lead astray those who are more passive and yielding. A



knowledge of devices and iniquities, which it is immoral even to stand, is secretly communicated and treasured up, which can work rapidly in corrupting and demoralizing the youthful mind. Unaware of the great extent of the evil that is wrought through this constant intimacy which exists among children and youth at school, it is deplorable to consider how many vicious artifices and corrupt influences sometimes learn in a single term of school. Under these favorable circumstances for receiving impressions, a pure mind may be loaded with thoughts and desires, in a very short space of time. This is a subject which claims the earnest attention of both teachers and parents. It requires great vigilance, and efficient and timely counteracting influences can be secured.

Your committee would invoke, in behalf of our system of public education, a liberal policy, and a watchful and earnest interest. Schools, next to our religious institutions, are more closely allied than any other to the public interests, to the good order and well-being of society. Vice and crime usually are handmaids—and so are intelligence and

*School Committee.*—WM. P. PAINE, J. H. GLEASON, WM. C. METCAL.

### HUBBARDSTON.

By the provisions of the Act of April, 1865, it has become the duty of the town to maintain schools in each of the school districts for at least six or twenty days each, during the present year and thereafter, or the amount of the annual income of the State school fund, to which the town is entitled, will be forfeited and withheld. The commendable generosity of the town in appropriating a sufficient sum of money to comply with the provisions of this statute, and avoid its penalties, imposes upon us, in the discharge of our duties, more care, and more weighty responsibilities. Therefore, we wish to inquire, from whom shall we receive needed sympathy and aid? For we sometimes feel it to be too much a thankless service to be paid.

Will the people take a deeper interest in the schools than they now do, and by visiting them, and by other necessary means and agencies, assist themselves in respect to their wants, progress, and success? Will we go forward in the exercise of our duties, feeling that we can rely upon the parents for active co-operation and sympathy? Will the town receive the parents' assistance and counsel whenever needed? Will we receive their confidence, to such a degree, that they can receive strength from us to labor more assiduously, with a greater promise of success, and a consciousness of being more truly and justly appreciated? And, finally, ourselves, again, shall we be permitted to see the results of the town's efforts, attained by using only the common methods of supervision and

ual wants of the schools? If securities were required of us for discharge of duties, might we not consistently ask pledges in that you will say the law directs you by its provisions. Very well, we, then, ever venture to approbate, or refuse to approbate, whom we do not feel very sure are amply qualified, and just the position they seek to obtain? Exercise your own judgment, very good, if you will not complain, but trust to our purpose to end, once more, shall we enforce the provisions of the law attendance of all children upon the schools? It is for you, as and parents, to answer these interrogatories in the exercise of reason and the plain convictions of common sense.

Committee.—ABEL HOWE, WM. S. GREENWOOD.

### LEICESTER.

1867.—The Town School has through the year been small, and time has contained a considerable proportion of pupils of a low scholarship. The government has been good, and the instruction good and correct.

Things long operating against the prosperity of this school have affected its usefulness. They are twofold. In the first place, composed of three distinct and distant villages, and there is no place where a Town School can be located so as to be accessible to a large portion of the inhabitants. At first the school was kept at the several villages. But it was soon found that a school could not rise above the dignity of a "one-horse concern." It was located in the Centre village, and compensation made to the other villages, but being chiefly dependent upon the partial patronage of a few of the town, it has for several years been small, and composed, almost entirely, of young scholars. The other influence affecting the school was that at the academy, in consequence of the more liberal facilities afforded, a better opportunity has been open, at a small expense, for pursuing the higher branches of an English and classical education. The Town School has therefore been reduced to a grade not above that of Grammar School. For a few years the Town School held a high rank, and was well patronized, but the increasing enterprise and popularity of the academy have in a few years caused its numbers to decrease, and removed the basis of its existence.

It has been thought desirable to incorporate these two institutions so that the advantages of the academy might be open to the public, and that it might exert a direct and stimulating influence upon our common school system. The school committee, to whose discretion the whole



subject was entrusted at the last town meeting, have made an entirely satisfactory for securing this desirable end, and scholars pursue their studies in the academy building and enjoy all the benefits of that institution. This arrangement is established under the law, and we think according to the spirit of the law. Facilities for School education are now afforded our children, equalled by no other towns in the Commonwealth. The full advantages of the academy, its ample corps of teachers, and its extensive apparatus of illustration, are, at the same expense required to support the town school, made available to a much larger number of pupils than was the case when several years attended the Town School; and any child can qualify himself for, and enjoy these advantages.

*School Committee.*—N. B. COOKE, A. H. COOLIDGE, J. N. MURDOCK.

### LEOMINSTER.

*No. 10—First Department*—vacated the old school-house for the spring term in its new academic temple, "A sparkling brow of the favored ville." The pupils were favored, throughout the autumn terms, with new school-rooms, neatly kept; the walls adorned with blooming floral treasures, cultured by the fingers of the scholars, and the seats were filled with listening scholars, at first a little restless under strict intellectual discipline, accomplished a good degree of study and improvement. When examined at the close of each term, recited accurately and well. The parents and scholars should ever feel grateful that their children were cared for by so faithful a guardian and received so good an education. The winter school, of twelve weeks, has not closed when this report goes to press, but the committee in charge is happy to say that the scholars in mental arithmetic performed problems readily and accurately; the scholars in algebra reason well; the advanced scholars in written arithmetic finished the book, have left the letter of the text, and are taking up mathematical principles and discussing them; the advanced scholars in their geographical text-books, study by topics and consult maps that will assist them, go to the blackboard, draw maps from their own maps, for at the blackboard they flourish. With the income of the Kendall fund, added to the town's appropriation, the villagers possess an advantage over other schools, a liberal amount of money may, and probably will, prove a great benefit to the children of North Leominster.

*General Report.*—The "detailed report" of all the schools satisfies the committee in saying, that, on the whole, a very satisfactory amount of success and prosperity has attended the Public Schools during the year.

general, everything has gone on harmoniously. There have been few cases of difficulty between teachers and pupils, or between teachers, requiring the interference of the committee. A good interest has been manifested by the parents in the progress of all schools. In one instance, where it was suspected that the school was not accomplishing all that was desirable under the circumstances, a number of the parents visited the school to ascertain for themselves what was the condition of the school and the mode of governing it pursued by the teacher. We commend this method of investigation, if it is made in the right spirit and with good intention, much to the benefit, as in this instance, to all parties. Parents, teacher and school will be benefited by it.

Our schools will compare favorably with similar schools in the State. In thoroughness, in good discipline, in constant attendance, in the spirit of progress among teachers and pupils, in the amount of knowledge acquired, we feel confident that our schools are much above the average of all the schools in the State. But far from that eminence we hope to reach. We should strive for higher attainments; and, if we fail in the laudable endeavor, that failure will be attributable not so much to any defect in our school system, or to any deficiency in the appropriation of money, as to the want of interest on the part of the community. Progress in education requires a wide-awake people, and it is our duty to drive ignorance from all our children.

We commend our schools to the liberal support of the inhabitants of this town. Their importance is so transcendent that there is no danger of neglecting them upon them too much of our care or means. If thus far in the history of our country, Massachusetts has had any commanding influence upon the councils of the government; if, by her example, and by the emigration of her sons, she has been instrumental in imparting anything of vigor, of persistent energy and successful enterprise to the pioneer states, during the late war, her citizen soldiers have been foremost and bravest in the defence of the Union,—it has been chiefly due to the influence of her Public Schools. Free Schools are one of the greatest institutions of modern times. Daniel Webster once said that, "if he had any children as old Priam of Troy, he would send them all to a Free School."

It may not seem out of place to allude in this report, briefly to the new school-house, built by the town during the past year, for the use of the Centre. The committee desire to express their satisfaction with the construction and its adaptation to the purposes for which it was erected. In the construction the best materials have been used, and the work has been done in a substantial and workmanlike manner; and in its design and proportions, the edifice attracts the attention and elicits the



commendation of most strangers and persons of taste and skill. Its location is central and convenient, and the rooms are of a good size, well lighted, easily warmed and exceedingly well ventilated. The building committee placed over each of the rooms one of "Refrigerators." These have been found to fulfil the purpose intended better than was anticipated. Fifty years ago, almost all school-rooms in this country were warmed by burning wood in open fire-places. When the scholars on the front seats were half roasted alive, the back seats sat shivering with the cold, there was no warm ventilation, for the foul air, engendered by respiration, rapidly filled the capacious chimney, together with a good share of the heat, by the burning fuel. But now, all that is changed, and what was lost by the saving of fuel and the comfort of the scholars, is lost in the loss of mental activity. By the substitution of close stoves for open fires, without any adequate means for a change of air, the school-room very soon becomes so contaminated as to be unfit for respiration. But with these ventilators, the foul air is constantly drawn out of the room and pure fresh air is as constantly taken in, rendering the atmosphere of the room agreeable and healthful. The placing of these ventilators was placed upon most of the school-rooms, and the increased comfort and bodily welfare of the scholars would amply justify the expense.

*School Committee.*—C. C. FIELD, JAMES BENNETT, C. H. MERRIAM.

### MILFORD.

The success of the graduates of our High School in their teaching, is especially gratifying, and may encourage the hope that eventually our schools will be wholly supplied with home teachers. Things being equal, it is right that they should have the preference.

The arrangement for the commitment of truants to the Truancy School in Worcester has been continued, and with favorable effects. The efficient and prudent management of Mr. Miller, the truant officer, has caused the cases of truancy have been greatly abated. He has made fifteen arrests, and fourteen of those arrested were returned to their respective schools. One case of truancy has resulted in a commitment to the House of Reformation. Two only have been committed to the Truancy School, and they have both been discharged with evidence that they have resolved upon a better course.

*School Committee.*—GEORGE G. PARKER, H. H. BOWERS, JAMES H. COOK, JOHN S. MEADE.

### MILLBURY.

*Night Schools.*—Some two or three months since a petition was presented to the committee, praying them to open Night Schools in several of our most respectable citizens and heaviest tax-payers.

who could not attend by day. The subject was presented to a legal meeting called for the purpose, when a sum, not three hundred dollars, was appropriated to defray the expenses. Two Night Schools were opened in the Burbank House, the Union House. The first two were taught by Mr. R. Thayer and Mr. E. Balcom; the last two by Mr. Charles L. Harding and Mr. J. A. Smith. It is doubtful if there have been any schools in town where so much has been manifested a greater desire to improve than in these Night Schools. The teachers have been faithful and the pupils diligent.

—E. Y. GARRETTE.

### NEW BRAINTREE.

Success in our schools depends upon the faithful and earnest labors of all who are connected with or have an interest in our

sometimes thought and said that a good teacher will always make a

On the contrary, we think that circumstances will sometimes defeat a good teacher's success. If the parents show themselves wholly unco-operative to her just claims upon them for co-operation; if they even hinder her in her way by depreciating or even ridiculing her qualifications; if they suffer themselves to concur upon no evidence, or the exceedingly one-sided testimony of their children; if they never take the trouble to examine for themselves; if they never give her the encouragement of their occasional presence in the school-room; and, more than all, if they take no interest in the studies pursued by their children; do not know what they study; and do not even know how to interest their children in their studies: under such circumstances we should not be surprised if even a good teacher should fail. A teacher is not a machine by which a certain amount of work can be done as long as it is kept in order, and until it is worn out; but is a human being; usually cultivated, refined and sensitive, having a mortal body and an immortal soul, both which, as in other human beings, are subject to fatigue and weariness.

As much sympathy is necessary to prevent friction in machinery, so is sympathy to a teacher. It lightens burdens; and no one more than the teacher needs confidence and sympathy. She is frequently a stranger among the people she is serving. For six weary hours of the day she is toiling and struggling diligently for us and our children. Her anxieties follow her from the school-room to her boarding place. If she be faithful and devoted she finds little respite from care. Surely we ought to render her aid and we can by giving her our confidence and sympathy, since it



costs us nothing, and since it will really be an advantage to her efficiency.

In another way, quite as effectually, we can aid the teacher's success. It is by interesting ourselves in our children *children* merely, but as *pupils*. How many parents are there who know even the studies their children are pursuing! who never examine into their progress; who, when a new book is wanted, it, but do not ascertain whether their children are prepared to read it. As a consequence of this course, books are left before them and the children acquire the habit of being superficial.

*School Committee.*—JOHN H. GURNEY, HOLLIS TIDD.

### NORTHBRIDGE.

By the provision of the statute, the citizens of every town in the Commonwealth, in which the district system is maintained, are required at their annual meeting in 1866 on the question, whether the district system be continued or not, and thus every third year, till the system is abolished. It may not, therefore, be improper for your committee to present some considerations, which bear upon the question, and upon which you are to decide.

In favor of the abolition of districts, it may be said, that the legislation of our Puritan fathers, established the town system. Many years afterwards, that districts were established. A venerable age sanctifies a system, the town system must stand, and the introduction of the district system is not an unwelcome return to the plan of our early fathers.

Again it may be urged, that what we want is the best unit for the most efficient improvement of, and concentration upon, our schools. Now, under the district system, the voters of each district are that unit—in one, 10 in number; in another, 20; in another, and so on. And in its practical working what do we find? A great degree, interest in the schools is developed in proportion to the number of voters making up each district; so that in the large towns, under similar circumstances, a much deeper and more concentrated interest prevails, and as a consequence, better school buildings—better school buildings maintained. Why not, then, make the *town* the unit of school management, embracing all the intelligence within its bounds, and instead of dividing our school interests into a dozen fragments, concentrate them, and bring them up at our annual meeting, for the consideration and action of the whole town? Thus we do act in regard to other public highways to be laid out and built, and forthwith the whole town is summoned to consider and act. But do not the protection and ad-

ts of our children demand a hearing before a body as equally and potent?

other hand it is said, that the districts are the little democracies e, developing individual independence and offering check to con-

To this it is replied, that in their practical workings, they are year after year, in the smaller districts, it is well nigh impossible ether a small minority, while even in the larger districts, a often with difficulty obtained. And again, what freer, or more body is there in the world, than a New England town meeting, variety of interest involved, summons a large body of citizens o that improvident and improper legislation rarely calls for

*Committee.*—J. LASELL, GEORGE BENSON, WM. H. WHITIN.

### NORTHBOROUGH.

ral we may say, that while our schools the past year have been o the average mark, and perhaps higher, we have been led to strongly than before, the importance of some change in our as to secure the best economy and efficiency. We do not wish te the report of the committee of seven, on schools and school- at we offer the single suggestion, that perhaps the defect in our be most simply and effectually met, by establishing one central the benefit of the more advanced scholars in all parts of the ng the several district schools as they are. We would not t only invite the old scholars to attend the higher school, by the perior advantages to what can possibly be provided for each This may not be all the change desirable; but it would, perhaps, t first step of improvement. Such a school might be kept open t months in the year, at such seasons as may prove most con- And thus it would secure, in the easiest way, the two most points,—

*y of Time*, by relieving the district schools of a large part of which now crowds the teacher's hands, and checks the best of his labor; and

*y of Means*, by enabling us to supply the wants of the districts le teachers, generally natives of our town and trained in our hile at the head of the central school can generally be had a competent than the average of those whom we can obtain under t system.

d it to be the duty of the town to give all its children, not all the to be desired, but the best it can afford. And in this view, we e opening of an evening school, which might be taught three



evenings in the week, for three months in the year, by the central school, for the benefit chiefly of boys and young men of trades, which do not permit them to attend a day-school.

With these steps towards the centralizing of our school system, we think it desirable that the appointment of teachers should be left to a visiting committee; while, in our opinion, this committee should be enlarged by appointing a member from every district, and that he should be honorary and unpaid.

We suggest, also, as a means of justice and economy, the appointment of an agent or superintendent, with a moderate salary, who should have the responsible oversight and care of the school property belonging to the town, now left to the unpaid and irresponsible charge of the committee of each district.

*School Committee.*—JOSEPH ALLEN, HENRY I. JEWETT, J. H. ALLEN.

### PAXTON.

No profession demands more profound thought, more assiduous industry, and more true self-devotion than that of teaching. For the study are required for the physician, if he would become a master of his art, a knowledge of the human system, with a familiarity with the derangements by different diseases, and would learn also then the art of correcting such derangements; and, after all, his work is but the body that is soon to perish. The artist often labors long to bring out of the shapeless block of marble, some personification of beauty. He strives to put life and light into the eye, gracefulness into the limbs, and vigor and reality into the work. But when he has done all, the stone remains soulless and unanimated as while it slept in the quarry. But the teacher's work is not so. His materials of life and thought. It is the care and culture of mind which receives and retains impressions and thoughts that are of no end. For this work the educator of youth should be as the sun and the morning dew combined, that the living buds and seeds are before him and so dependent on his influence, may be brought to maturity, that the richest fruits shall in due time appear.

Young minds need to feel an influence embodied in their teacher. He can lead them strongly, yet patiently and devotedly,—making his influence in their path plainly visible, while the true gain and the pleasure of learning them onward, shall be kept in constant view. And to do this is enough for any teacher to depend wholly on his previous acquirements and knowledge. Every new day in his work calls for some fresh knowledge. For no subject can be so familiar, that something new, either in its principles or in its bearings, may not be learned; and, by keeping

he is better prepared to keep up some healthy excitement in the those whom he professes to lead in the race for knowledge,—some in some things, may not be so far behind him, as he may imagine. In addition to knowledge, there should be great care and constant of all his language and conduct before those whom he teaches; careless actions and careless and improper expressions may leave a bad influence fixed for life.

The permanent influence which schools exert upon the minds of all who attend them, renders it of great importance that all school associations should be such as to leave on the minds of the scholars the most agreeable and pleasant remembrances. From the longest lives, while the mind is young, the memory of school days is never effaced. Aside from all that is acquired, there are many other impressions received, which add to the enjoyment of reminiscences of the past, or detract from the enjoyment, according to the character of the scenes through which the scholar is led. And for this reason, among many others, everything connected with our schools ought to be rendered attractive. Houses should be kept in good repair; school-rooms should be kept neat and comfortable. School exercises should be arranged with a view to the comfort and interest of the pupils; for where a school is made happy, every one of its members is in a better condition to make improvement of the privileges afforded them. Parents ought always to inculcate the idea in their children that the school is designed to be a pleasant place for them; and that any misbehavior there ought to be severely censured. The example of the sterner ones of our fathers, of administering a double portion of the essence of birch to any one of their children who was punished in school, certainly had some true philosophy in it, as bearing upon the future happiness of their children; for most certain it is, that the child who is permitted to suffer the loss of a salutary chastisement really deserved, will seldom be happy or satisfied with anything, in school or at home. It is such a loss in their training, at the formation of their character, as will usually follow them to old age. To cultivate in our children, with firmness and love united, will always result in a sum total both of their happiness and their usefulness throughout life. If the work is begun early enough, it can generally be finished, before their school days begin; and if the work were more speedily accomplished at home, our schools would be much happier places for our children, than they sometimes are now. The work of the school should be by the teacher, and of learning by the scholars, would then be the real business of the school, while good order would be much more easily served.

Committee.—WILLIAM PHIPPS, H. W. HUBBARD, E. W. CONANT.



## PETERSHAM.

*Criticism.*—It has been customary in most of our annual reports to criticize each school separately, noticing excellences and defects here, censuring there.

There may be advantages in such a course. It may awaken emulation among those who do not really love teaching, to make their names may be mentioned with honor. But teachers influenced by such motives, seldom are ranked in the first class, and drop the profession as soon as other employment presents itself.

There are, we think, serious objections to such a course. It is positively useless. If I employ an individual to do a piece of work, and he does it as well as he knows how, finishes the work at the time, and to me for my approval, it would be useless then for me to find fault with it, if it is too late. It cannot be altered, for the time is past and the opportunity is effaced. The time to do good or to make useful suggestions is when the work is in the process of completion. So with our teachers, their opportunities are closed. They have fulfilled their contracts, received their wages, and are engaged in other duties. To criticize them and their labors beyond our reach, is to labor in vain. It can do the teachers no good, and can do the scholars no good. The time for criticism or friendly suggestion is while the school is in session; even then, not in public, but in private. The very object for which committees visit schools is to commend its excellences, and correct, if possible, its defects. To find what is wrong, and then in a friendly and familiar manner point out to the teacher the best mode by which these defects may be removed, and by which way another evil may be avoided, viz.: that of wounding the feelings of the teachers and their friends. A great wrong may be done by criticizing indiscriminately, or blaming unjustly. A sharp-eyed man can find faults in every school. It requires no great tact or talent to find faults. It is one of the easiest things that can be done. Neither is it wise to point out every defect. To do this is sure to wound feelings, to discourage future effort, and to weaken that self-reliance which each teacher needs to have if he would be successful in any pursuit. Teachers should be encouraged, not disheartened,—their feelings respected, not wounded. If they have not the requisite tact and energy, they will soon fall from their places be filled with others. We would not, therefore, in a public report, point out in pain where we can possibly avoid it. For these reasons, and of a similar nature, we have not individualized each school, but have given only a general censure or commendation.

We would express our heartfelt thanks to our faithful corps of teachers who have labored so hard and earnestly in the general instruction, and, in their particular spheres, for the real improvement of our pupils.

*School Committee.*—WILLIAM MILLER, JOHN M. HOLMAN, SEXTUS

## ROYALSTON.

actice of early dismissals is also altogether bad. Much time is lost off. It is attended with no little interruption and disturbance sets uneasiness in many of those who remain. The opening of is the signal for restiveness, inattention, neglect of study, and Another and another is tempted to apply for a pass. Time is in investigating claims. Innumerable dodges are invented. ading flourishes. Decisions often seem arbitrary. The teacher rows stern and cross; and the school fretful and morose. When on, another beaming face disappears at the door, while those own, sob, or give way to tears, as the case may be. It is painless the closing scenes of many of our schools, when this practice is; and we are always relieved when the curtain drops. We times been tempted, in view of the effect of two or three dismissing the last hour of the session, to close the school at once, and his destructive friction.

rents, and teachers too, think this practice needful for the com- younger scholars. We do not believe in it even for these. A ough to be in the Public Schools at all may go through each hout harm, and be benefited by the exercises and discipline. every year confirms our conviction that children carried regular hours, from first to last, take much sooner and more e necessary order and duties of the schools, and, other things, become better scholars, than such as are treated to the half system during the first two or three years of their pupilage. A is learned in the schools by observation; good impressions, principles and salutary habits are acquired with scarcely an the little ones, no less than to others, the insensible influence of room is of advantage. And as for the much talked of prejudice nd the physical tortures, resulting from the confinement and ne of the schools, especially in our short and infrequent terms, r small schools, they are much easier talked of, than shown. s may be real and serious where the children go to school eight hs in the year; but with us we are persuaded that health, and velopment, will not suffer by putting the children, at a proper ool, and remitting them to the order and discipline thereof

It is better for them than turning them out in the streets, or em up at home. And besides, if they come in for the privileges ols at all, they ought not to introduce that element of disorder bance which cannot be avoided in the practice which we



And this leads to the general remark, that the common responsibilities inherent in our system of public education need to be brought into serious consideration in all our views and practices towards the children with the schools. It is a grave offence against common justice and the rights of the children, when the mere convenience or caprice of individuals dictate to, or infringe upon the economy of public education. It is not for the public to tolerate tardiness, absence, or the dismissal of children from school at unusual hours, without special and sufficient excuse, is to interfere with the great business they have taken in hand, and for which they are bound to incur large expenditures in time and money. Every scholar has a right to be on a common level, and has equal rights here, and is equal to the duties incident to the existence, legitimate action and success of the enterprise. It is fit that common participants should have an equal and impartial regard to whatever the general good demands. It is the reason and justice of urging the teachers, who are the servants of the whole, to enforce punctuality and regularity of attendance of the pupils to the prescribed hours; exact a justifying reason for absence herein; and inflict appropriate penalties when no such reason is given. Neither to relieve themselves of care and trouble, nor to gratify the able requisitions of individual parents or pupils, are they bound to make prime regulations. Hence, too, it is just and equal to expect the co-operation of those who send to the schools. It is the duty of the children off betimes, and accept the legal conditions of the schools. It is theirs to remember that the schools have a legal claim upon the children; that the State enrolls and peremptorily exacts tuition up to a certain amount, unless it is shown that an equivalent is furnished them otherwise; that the school authority binds the children the moment the children depart from home, and holds till they are released; and that it legally challenges the tardy and the absent for absence. The principle is not arbitrary, and it involves no infringement of the rights of parents or the home government, unless it can be shown that these rights are independent of, and paramount to, the State. It is legitimate and necessary that teachers should be held responsible for the loiter, play the truant, or are disorderly or vicious on the way to the school and about the school-house, equally as within doors. If, accordingly, they are armed with power to call offenders to account and impose suitable penalties, in the one case, as well as in the other. And if it is fit, it is only reasonable and just, to look confidently to the school authority for co-operation. The case demands the joint action and helpfulness of both, and therein consists the effectual means for the pledge of harmonious progress and complete success, both for the children and the government of the schools.

*School Committee.*—E. W. BULLARD, L. TANDY, F. D. AUSTIN.

## RUTLAND.

tion has come up to our minds, as we listened to examiner that system, so common, of cramming the minds of the mere words, is not confusing to the mind and therefore profits, mere technical phrases, are soon forgotten. The aim lodge the idea in the mind; the vehicle which carries the idea importance. If merely to hear children spell, recite rules in and mouth over their reading lessons, is the most that is to be a teacher, then care in the selection is not of so much consequence that would seem necessary, is to procure teachers at as low possible, have them hear recitations and assign tasks; but your sink there should be higher aims than these. For it seems to, that our children should be entrusted to those who have not work as a means of livelihood, merely, but to those who infuse nation with their efforts, creating a desire for such knowledge the establishment of a valuable character.

*sent.*—ABRAM H. TEMPLE.

## SHREWSBURY.

*ool.*—For many years past, as the population of this town has ng, the attention of its citizens has been repeatedly called to of a greater appropriation for the cause of education in our addition of six hundred dollars the present year, to be devoted school, is a noble step in the right direction, and meets with the y of your committee.

it unnecessary to enter into any elaborate detail of the many ong reasons for such a measure—the committee are fully con- the time has come for action. If we would advance with the of improvement—if we would maintain a high relative position intelligence, refined taste and literary attainments, with other Commonwealth—if we would hold out high and noble motives lass of citizens to locate in our town, and for retaining those us—we cannot longer, as faithful citizens, as benefactors to neration, and true patrons of education, withhold the requisite into successful operation such a High School, at least for part

to the youth of this town without distinction, the privilege of their education in those higher branches of literature that will college, for the profession of teaching, for mercantile business sponsible posts of honor and trust, on the same free principle



that instruction is obtained in our Common Schools, is one that must awaken a deep interest, and secure the attention

In what way, again we would ask, can we better serve the race, than to bring to the greatest number of youth the best education? We would not underrate or speak disparagingly of the noble efforts of many Private and Select Schools, the success of which will extend to the latest generation, but we hail the more prevailing sentiment of the day, of exclusive liberal principle, a principle more in accordance with the rights of all, the privileges of a thorough education alike to all. We are fully convinced we can subserve most surely and effectually the future well being of our country the government of which is pouring out our treasures and blood to save from destruction

*School Committee.*—GARDNER RICE, ARUNAH HARLOW, EMERS

### SOUTHBOROUGH.

One of the most delicate as well as important duties of the committee is the selection and sustaining of teachers. If the few questions in arithmetic, geography and grammar, in reading and spelling were always to determine the fitness of teachers, then the duty of the committee could be more easily performed. There are important questions, however, the answers to which are not fully reached by the committee till after a trial, such as the ability to control? Is there judgment for the instruction of scholars with different mental characteristics and dispositions? The manners of the candidates such as would be justly controlled by the pupils? Will their deportment out of school illustrate and enforce the moral sentiments which the schoolmaster will be inculcated in the school-room? Have they a true reverence for things; and will they so use the word of divine truth, that their hands as a reading book for all, that the sacredness of the school will be felt by all the school? Will their life and conversation have an elevating influence upon the children and youth who are their companions? It is highly important that clear and accurate instruction in all the branches of science taught in the school should be given by those who are to bear such an important part in forming the characters of our youth, these other things are quite as important.

When the teachers of suitable qualifications are found and sustained. Here the necessity of co-operation is seen. It is difficult under the most favorable circumstances. Teachers are often unsatisfactory to themselves and others, when they are not sustained by the sympathy and active co-operation of parents. With

tion, the best efforts of high qualifications and of the most experience, may be, to a great extent, defeated.

*Committee.*—JONAS FAY, R. GODDARD, JOHN COLBY.

### STERLING.

and severity by which the pupil learns to obey through fear and love, have been less noticeable; and the great secret of success (which would have otherwise been inevitable,) has been traceable to several instances, that the teacher knew how to control himself, as of his own weakness as well as strength, and could thus understand and sympathize with those who were constituted in like manner. The great virtue in the rod at times; but there is greater virtue in the understanding eye, the even temperament, resolute will and inflexible

instruments to obedience and diligence are infinitely more powerful than in the former case. We are glad to see that corporal punishment is resorted to less than formerly, and that appeals to the moral and religious sensibilities are found to be more effectual and salutary results.

The position which the teacher holds to the pupil is like that of parent to child. Anything like rough and brutal management invariably leaves a bad impression upon the young and tender spirit.

By his behavior it is easy to infer the kind of government, as gentle or harsh and unruly.

It is a small matter to entrust our children to others' management; and if the teacher proves ill-tempered or tyrannical, we subject them to the risk of injuries and insults. Better the mind left unstocked than the child spoiled by such unfeeling natures.

A brutal master who would crush the young life out of his hopeful pupil would discourage and condemn where he ought only to comfort and encourage; who would excite hatred and revenge where only gratitude and love should rule in the heart, we have the most intense aversion! Your committee would respectfully invite all such to withhold their application for employment in this town, and would encourage only those to whom the principles of rectitude and honor, as well as in whose intellects are the spark and fire of scientific research—classic lore. "He that breaks the bridge over which he must pass himself; he has need to be forgiven."

*Committee.*—SAMUEL OSGOOD, F. D. LORD, A. S. NICKERSON.



## STURBRIDGE.

We should be false to our trust, however, were we to neglect your attention to the increasing amount of tardiness. In some of the registers present a very sorry appearance. It is in vain for the parent or guardian to urge the necessity for such irregularity, day after day, if there is any occasion for employing your children in household labor, it should be taken for such a purpose that is not already appropriate to age and custom. Manual labor and chores should either be anticipated and deferred, for the school hours cannot be changed; nor should the school itself be made subordinate, as it too often is, to the convenience of something else.

In this connection, we must refer to a growing practice of withdrawing older children out of school a day or several days at a time, during the busy season of the year, and thus breaking in upon the discipline of the schools. We believe that in our community there is a pecuniary necessity for this. Those persons who do it are, for the most part, so far as we have observed, wholly able to hire the help they need without infringing upon the educational privileges of their children. It is not the tardy and the absentees alone who suffer from these irregularities; they who remain constant to their duty are compelled to suffer the consequences by being retarded in the progress of their studies, and the confusion of all habits of discipline that creeps into the schools from this source. It is useless to complain of the inefficiency of our schools when such irregularities are countenanced. As well might a farmer complain of the barrenness of his fields, when, through his own negligence, he permits the seed he has sown to be pulled up as fast as it is able to take root. If we thus obstruct the work of the teacher, not only our schools, but society itself suffer from the damaging influence of these irregularities. They do not stop with the season of pupilage, they become a habit, and affix a blemish upon the character of the child, and thus into manhood and womanhood, and affix a blemish upon the character of the town. The term of our schools is too short to permit of a waste of time; every day should be husbanded with fidelity, in order to secure the opportunity thus afforded.

But while there are some who are neglectful of their obligations to the schools, there are others who do not seem to understand the responsibilities of the teachers, and undertake to intermeddle with them contrary to the good taste, or discretion. It sometimes occurs that a parent, more ambitious than wise, visits a teacher with maledictions, or reproaches, if she does not introduce some branch of study which he thinks desirable, or important for his child to pursue; and, in return for what he considers neglect, he insinuates against her capacity, and endeavors to undermine her position in the minds of those who are unfortunate enough to

that recommended above, these difficulties would all be of the cause of education would advance in proportion to the facilities. But the advantages of such a school would not be limited to the acquisition of knowledge; it would have an indirect influence upon the good morals of the children, by furnishing useful employment during the time that would otherwise be spent in idleness, in idle pursuits. Many would be kept in restraint by a wise discipline, otherwise would grow up in wantonness. And we may understand the healthful advantages of attendance upon such a school for the physical health of children to have regular mental exercise after day. The experience of most people will attest to this, and will but observe, that the change from school to recreation, to manual exercise every day, is more advantageous, in its results, physically, than the practice we now pursue. There is much talk expended upon the evil influences of mental application to a child who is injured by it, we might point to scores who are disabled by habits of idleness from discharging, in after life, the duties of manhood and womanhood and good citizenship. We fear that our children are in danger of overtaking the danger lies at the other extreme, and in this recommendation a remedy, which we hope will some day be applied. It is sectional prejudice should be laid aside—that incarnation of evil that is forever rising up in our country towns and rural districts, and the progress of the community in whatever shall develop its uses and the happiness of life.

*School Committee.*—JOHN A. BUCKINGHAM, HENRY E. HITCHCOCK.

## SUTTON.

*Common branches of Learning.*—The important branches of reading, writing and arithmetic, have received special attention. Of the other required branches have been wholly neglected. It is the constant endeavor of your committee to revive the study of the history of our own country, which has been partially laid aside, and determined to make the introduction of it, into every school, an imperative.

The very great number of questions and problems in our mathematical text-books, to be fully answered and solved, need a large share of the school-hours; so that, while we are endeavoring to teach among our pupils, many good mathematicians, we have, to a great extent, neglected good grammarians. And it may be true in part, that the sciences have flourished at the expense of grammar. If this be true, we are strained to urge that, for a while at least, grammar be revived.



the expense of the mathematics. But we think there is another reason for this deterioration in grammar; and that is the unfortunate selection of text-books ill adapted to the wants and capacities of the pupils. Under the influence of such books, time-honored and unimpeachable definitions and rules have been unsettled, while a critical, etymological, and syntactical parsing has given place to a showy and pedantic

*Committee.*—I. B. HARTWELL, M. E. CROSSMAN, A. W. PUTNAM.

### TEMPLETON.

—In visiting the several schools in town, one is struck with the difference, not to say contrast, which is observable in classes in different parts of the town, pursuing the same subject, in the interest manifested by the pupils in their studies or recitations. Here we find a class answering the questions read by the teacher from the book, without the least apparent interest, not seeming to regard the subject as of much consequence; and the answers may be given in the precise words of the book, the countenance, the eyes, all show that there is not a particular interest felt in the lesson. Again we see a class called to the recitation by another teacher, whose eyes sparkle with pleasure, and whose countenance indicates a lively interest. Now it requires no gift of prophecy to tell which of these classes will be most profited by their studies. There is a great difference in the mental endowments of the pupils, and that all cannot be made alike interested in their studies. Yet from what we have seen in our schools, that a judicious teacher, himself animated with the importance of the subject which he is to teach, can do much, very much, to awaken an interest in the dulllest, and in the most uninteresting pupils. Again we are sometimes told that the study of some subjects is dry and uninteresting. This is often said of the study of grammar. But is this necessarily so? Take the dulllest class in the school-room, follow it to the play-ground, and there find the pupils happy in their innocent sports. Are they not all animated, happy? They all seem to enjoy the free exercise of the muscles of the body. Is it true then, that those God-given faculties of the mind are not as susceptible of pleasurable emotions when properly engaged in gaining knowledge, and thus developing their power, as that the exercise of the muscles of the body? We think the conclusion is true; and that the fact that some branches taught in our schools are uninteresting to the pupils, is not so much in the subjects themselves as in the defective manner of teaching them. Take for instance grammar. Let the teacher take a class of beginners, giving them no hint for what they already know of the subject; let him present

before them some familiar object and ask the class to give it; then let him inform them that all names are nouns, and will be perfectly understood and remembered by the whole class, let him introduce another element, and so on, explaining everything fully, till every member of the class can give him a correct and intelligent answer to any question he may ask concerning it. Let him pursue this course, introducing only one thing at a time, and never presenting a new thing till the previous one is thoroughly mastered, and he will be surprised in a short time at the interest awakened, as well as the improvement in the class if he has never experimented in this way before.

*School Committee.*—GERARD BUSHNELL, LEWIS SABIN, EDWIN G.

### UPTON.

Much depends on the wisdom and ability of the teacher; the success of the school is not entirely in his or her hands. Many teachers have been discouraged, perplexed, and almost broken down, under the influence of open or covert opposition of parents and guardians of the school. Insubordination has sprung from the opinion of the teacher, expressed by the parent in a careless and thoughtless manner to their children. We criticize the schools in public places, and in the presence of every grade of pupils. This habit leads to irreparable harm. The school, like all things human, is liable to mishaps and mistakes. It has made the food of store-gossip, the idle talk to while away time, and gratify the inquisitive and furnish materials to the tattling, from which consequences no human eye can follow. There are, in every school, influences when the slightest influences change its whole after character. This is especially true of those of the age of the older pupils. Their interests so momentous, and influences so far-reaching, are so easily jeopardized by a want of prudence. We appeal to you, to the highest welfare of our children, and a common human sense, to guard against carelessness or thoughtlessness in regard to the expression of opinion in the schools, with the severest disapprobation.

*School Committee.*—EDWIN NELSON, VELOUROUS TAFT, GEORGE S.

### WESTBOROUGH.

It is highly important, so far as the actual substantial benefit of the education is concerned, that the teachers in all our schools should, as far as possible, by familiar oral instruction and illustrations, and by the principles and applications of each branch studied, cause the pupils to clearly understand them—cause that all the knowledge gained and acquired shall be of practical use in the transaction



be especially arrived at in arithmetic, so that when the learner rough a rule of process in his class-book, he may readily and apply it to all similar problems. Here most of our scholars, want of thoroughly understanding the principles of what they taught, or want of reflection on the character of the new probated to them, very generally find themselves unable to do what of them.

to accomplish much in this regard, all the branches taught must ical shape and aim in the teacher's own mind. Merely to in the memory what the book says, is not enough to make a er. To know why and on what principles the statements and f the book are given, and to be able to make the pupil see all ess essential.

connection it may be said, that it is to be regretted that in our reading books used, instead of being mere collections of elegant prose and poetry, could not be made to contain the outlines of e most interesting and important sciences, together with con- tions of history, biography, &c. They would more readily fasten the attention of the pupils, the reading lessons would be willingly studied, and not less advance probably would be e art of reading; while, at the same time, the pupil would be up stores of valuable knowledge. With all the advantages of our youth come out of them, after having gone through the d of study, with but little knowledge, compared with the time aining it.

r remark in close connection with the foregoing may be made. aid, that almost any teacher will answer for this or that small ard school. There can hardly be a greater or more fatal mis- he too common one—that a teacher of very limited attainments, experience or tact, will answer for a small, backward school. ls have generally been made backward and dull schools by hav- backward and dull teachers; and if anything is to be made of must have the very best of teachers, those who can impart the and oral instruction in the best manner,—those most versatile, nd fertile in devices for exciting and sustaining interest in roving minds. It is not enough in such schools that the ws more than any of her pupils. She ought to know a great and know too, how to use her knowledge in the most attractive ive manner; and more than all, know how to find a way to the heart of her pupils, waken up thought and feeling, and, as it death and darkness into life and light. How can we expect to e of thorough, practical school training, in pupils in dull and

backward schools, conducted by teachers of low attainments, experience or tact in their work?

Thorough and practical teaching in all our schools would be facilitated, by having the school-rooms furnished with good books of reference, and some simple apparatus for illustrating important matters occurring in the lessons; and the pupils would have more lively interest in their studies. Those who have not attended schools, or given special attention to the subject, are, probably, not aware how much more the labors of our teachers, and the money expended for schools would amount to, if such facilities were placed in their hands.

*School Committee.*—D. GREENE, Z. GLEASON, B. A. NOURSE.

### WEST BOYLSTON.

While we have made a decided advance upon a former year, in school-houses, better text-books and better teachers, the report forced itself upon your committee the past year whether, in the government there has not been such an actual decline, and, in consequence, in great measure, all these improvements. No one who has seen the economy of the school-room can doubt, that a term of steady and wholesome discipline, even with very inferior books, is worth more to pupil and society, than the same school with the modern improvements, if the school-room is only the scene of a smothered rebellion. Good government, with a poor library of books, is worth vastly more than poor government, with the most modern appliances. All scholars, the moment they enter school, expect to be governed, and, if need be, punished; they expect, too, to do their whole duty in regard to study, as well as behavior. A teacher who fails to understand these demands of the time, and the maintenance of vigorous discipline, will find that he is not in the love and respect of the school and community, while a teacher who will be their pity or their contempt. Still the year has been marked good deportment in our schools. While many schools have appeared well, there is ample room for each to stand higher than they do at the present time. Some schools have been almost worse than none through a spirit of insubordination, and a lack of kindness and mutual esteem between teacher and pupil, and a want of universal; while several cases of severe discipline and open rebellion have come to the knowledge of the committee. The difficulties of school government, instead of diminishing, are plainly on the increase.

Your committee are pleased to report that you have not got your money's worth of schooling this year. We have



orly paid with less than mechanic and kitchen wages. If you got your money's worth, find no fault. The tuition of your child has cost you one cent and seven mills a day per head. If any child is able that he did not get his cent's worth, let him pay two cents and see if he can hire with it some teacher; nobody can find fault

as we fail to maintain a High or even Grammar School, our schools are our all. If they are poor, yet are they our best. In Common Schools, the majority of our youth receive their education. They constitute our Primary, Grammar and High Schools, and no other. If they are primary in the front seats, they are our schools in the back row. Then, if we can have nothing but good schools, let us endeavor to make them as useful as possible. It is not to cripple the energies, and diminish the usefulness of these schools, if they ever needed it, they especially need fostering now.

*Education.*—By co-operation, we mean the hearty working together of the youth, and the benefactors of the town in the glorious cause of education. Joint instrumentality is essential to highest success. If we unite in church polity and on political questions, still let nothing divide us in school matters. Our children must be educated together. Education is but partial education—nor is it at all democratic. No selection of funds however liberal, no selection of teachers however wise, will raise our schools to the rank they ought in justice to attain, if we do not have an undivided public interest in them. Then if vagrancy and vulgarity, and profanity is the tendency, let them be unitedly resisted. The shrines of knowledge had better be demolished, than become the shrines of hypocrisy and vice. Let us all unite together in exterminating the vices of the street, and in training up our sons and daughters in wisdom and virtue.

School stands nearest the family of all our institutions,—is indeed the life and image of it. As is the family, such is the school; such is the neighborhood, the institutions, the man. They say the household is fading out from our hearthsides, and disappearing. If so, it will be long before the infidelity will be repeated in our schools, our churches, our institutions, our men. Parents should co-operate with common school teachers, still more than heretofore, by frequent visits to the schools. "Far better dispense with the visits of the committee, than of the parents. The committee have only an official duty, the parent has a responsible one. Our schools are no longer the dismal places of our old people remember; if they were, who would think of sending their children there? or, sending them, would take his part of the blame by entering himself? Neither is the scholar any more the scapegrace by-word of literature, as when Shakspeare sang of

"The whining school-boy, with his satchel  
And shining morning face, creeping like snail  
Unwillingly to school."

And we wish there were more parents who, like some, their work not done, when they have sent their children parental roof. These watch the conduct everywhere. they are frequently at the school-room, sitting by the side of pupil, in earnest co-operation for the well-being of the child.

Friends! emulate the praiseworthy example. It will do to linger amid these nurseries of thought, and worship at the of knowledge. Children save us, rather, we are saved by as Christ said.

A blessed result to our schools arising from this hear would be regularity. Seasonable in the morning, and every during the day, regular in study and in play, should be amo of the school. Only united effort can carry into effect the of these maxims. All heads and all hands must join to tra some childhood in habits of order and precision. A glance and tardy columns in the registers, would give those who p in hard times an astonishing lesson in profit and loss. N ever, can set forth the magnitude of the evil. Of course blemishes were unavoidable. Sickness may be a palliating of the absences; tardiness, however, cannot thus be excu important is the loss of time by early dismissing pupils their parent's request. Scholars should be allowed only of excused hours—say one a week—and their increased speedily show the benefit of such a rule.

A common way of testifying dissatisfaction of a teacher taking the child from school. Parents and guardians thus dren of part of the munificent bounty which rightfully be Some who have theoretically right ideas of order, are too aside their principles, when their own children are in difficu who is governed by his son at home, thinks things have co pass, if that son cannot be permitted to govern the schoo child who rules his parents has wished to rule his teacher.

While it is true that inefficient teachers have occasioned the part of scholars, yet it has been a rule, with but few the child taught submission and obedience at home, has pr school. But if when flogged, young America has come bl to an indignant mamma, who has abused the teacher, instea the boy again and sending him back, he has proved a per to his district. In a word, when a boy has been always a tr the source of the trouble was at home.



! we appeal to you. Have you knowingly allowed your child to be truant, or for trifling cause, to absent himself from school? If he has suffered any dislike he may have causelessly taken to the school, he should be cherished by him, until it has broken out at length in open rebellion. Then have you committed a great wrong to your child, and to the school. Then have you marred his future prospects of a virtuous life, and the contamination has tainted all his associates.

In the education of your child, strive for completeness. A complete education implies the proportionate development of man's whole body, intellect, soul, should be disciplined. To-day, the attention of educators is turned more than heretofore to the physical training of the child. And it has come to be pretty generally believed, that a child of seven or eight summers, had better grow muscle and sprout towards the sun, than to pine away six of the twelve hours of day in ill-ventilated, unhealthy school-rooms. Children need recreation, and recreation will have; one province of education is, to see that it be wholesome. Play is wholesome. And a teacher should have much good to say to him,—the tact of making himself as agreeable out of doors as in the school. Dullness is intolerable, and dreaded by all—by children especially. An honest living, and to discharge the ordinary duties due state, church, and God, is the sphere in which ninety-nine hundredths of all the men and women into this world are to move. Education should fit for these duties, not high, social and moral duties. We should ever remember that our works, not upon perishable marble, but upon immortal canvas, are made for eternity. So unequalled in power and honor is the education of the soul, that angels from all their glory might stoop to share in it.

It is to mould the might of mind, than which when it speaks in thunder is not more audible. From these suggestions then, let us all bear away through the years before us, the thought that true education is to fit for the school of eternity—for the manhood of the soul when the tuition of time is ended.

Our committee have heard that school reports are proverbially dull documents, and they more than half believe there is truth in the charge. But we see no good reason why they should be less attractive than other perusing than other writing, so long as children and youth find in them the ornaments of our homes, and their education the prime interest of our lives and Commonwealth. Friends! read the report, and if there be any suggestions, profit by them.

*Committee.*—DANIEL ATKINS, JAMES H. FITTS, JOSEPH W. CROSS.

## WEST BROOKFIELD.

The quality of our schools depends much upon district select and contract with the teachers. The superintending determine as to their literary qualifications, and after they have as to their ability to manage, but when a teacher is once naturally hesitate to remove him, unless for some very proper management. When we visit a school, we do not always see its An agent living in the district and faithfully attending to know much more of the general character of a school than obtained by occasional visits. Among the duties of prudential specified in the statutes, is that of giving information and a school committee of the town, to aid them in the discharge of

Let all be faithful, as was the agent in District No. 1, the it would do much to improve the character of our schools.

*School Committee.*—W. B. STONE, S. N. WHITE.

## WINCHENDON.

*Prudential Committees.*—The agents of the several districts have many important duties to perform, and the prosperity of the schools much upon their intelligence and fidelity. We bear cheerfully their ready co-operation with us in all cases where joint action is necessary, and to their discretion generally in the selection of teachers.

*School Committee.*—A. P. MARVIN, E. S. MERRILL, G. A. LITCHFIELD.

The undersigned after serving on the school committee for twenty years, finds himself, owing to engagements which require him to be absent much of the time, unable to give that attention to the duties of every faithful member of the board must feel bound to resign. In such circumstances he is constrained to decline being a candidate for re-election at this time. While feeling that a release from the onerous duties of a member of the committee will be a relief, yet his interest in the progress of the town, his respect for the noble band of teachers who have been in charge, and his cordial regard for his associates in the school committee, mingle a tinge of sadness to this parting act.

During the last twenty years the schools have made a steady advancement; in some districts two schools have taken the place of one, much to the advantage of the pupils; a High School, of the first grade, has been established, and carried on with gratifying success. During all these years, there has been uninterrupted harmony and in action, on the part of the superintending committee. The gentlemen who have been associated with the subscriber in the management of the schools, will ever be held in kind and respectful remembrance.



ection, it will not be deemed improper or invidious to speak in special respect and regard of the Hon. Elisha Murdock, the faithful colleague in some eighteen years of service. He was interested in the welfare of the scholars, and never suffered pleasure to interfere with the claims of the schools upon his attention. This devotion to their improvement, the classes who have lately gone out from our schools, will ever remember him with gratitude.

the town will be served as faithfully as by the undersigned, efficiently, in the future, he takes his leave, with the earnest prayer that the people may be blessed, by a benignant Providence, in all their pursuits and avocations, and especially in the education of their children.

Respectfully,  
A. P. MARVIN.

### WORCESTER.

that the increase of salaries be deemed extravagant. It was only justice to our band of faithful and devoted teachers. As competitions were made by various prosperous interests, calling for female talent and offering liberal compensation, it was demanded by the best of education that the teaching profession should not suffer or be neglected.

Our Primary School teachers have received even less than housemaids often get with more ample accommodations and a more serious living. While if a girl in the shop, at the mill, or behind the counter, receives wages even equal with the teacher, as she often does, she receives a premium in the fact that she may begin to support herself in ten or fifteen, earning wages while she is fitted for her vocation; on the other hand the teacher must for at least four or five of the same years bear heavy expense before beginning to earn support. Money is not security from want, but the purchase power of resources and for extended culture, and is in so many ways the representative of honor and power, and higher values, that it is with no merely low motive that we endow with it liberally any profession that we honor and exalt and improve. Parsimony in this matter is the most ruinous and suicidal economy. Though the committee would be prudent, reluctant to increase the enormous burden entailed upon the coming generation by the war, they would also remember that a good education is a better legacy than gold, and that the rising generation if liberally educated will easily carry all necessary burdens, while if crippled by our parsimony, we rob them of the very power to pay the debts we leave behind us in all other departments of service, the best workmen are in the end the cheapest. Most especially here, where quality not quantity of work done is the chief consideration, this is true. When Public

Schools are poor, Private Schools multiply, adding just to the public burden. Could we place our Public Schools in a real competition, so that they should command the patronage of the people alike, it would be readily seen that the best schools are the ones that are best.

The system of object teaching, which has largely found its way into the schools of lower grade, has been somewhat introduced into the schools of higher grade. A manual prepared by N. A. Calkins, has been furnished to all the teachers as desired it. Its use has not been prescribed in any system, but has been desultory and incidental, depending upon the choice of the several teachers. In some cities this system has been carried to an absurd extreme, becoming a mechanical drill, committing to memory technical names, learning words more than ideas. Yet used with moderation and good sense it has great value, in training the eye for observation and comparison, in making study real and practical. It should be cherished and commended to all teachers of the young as a happy method of enlivening a school, relieving the young of a wearying study of books, kindling their interest in passing from the surrounding objects, and giving them a store of information for things beyond the range of their technical studies.

The experience of the last seven years has demonstrated that what was doubted in the beginning, that the employment of a superintendent should give his exclusive attention and time to general service, and that the department, would be an actual saving of expense to the city. In all prudential matters has actually lessened the cost per pupil, even with his own salary added, and all the enhanced prices of the war, has not reached the yearly average before the office was closed. But better results than this have been obtained. It is better order and discipline, the success and efficiency of the schools have been in so many ways promoted, that at even the same cost would have proved in every generous estimate a wise and economical investment. The continued growth of the schools, and the widening of the labor, have convinced the committee that the force in this department will be increased. It is not that two men are needed to do what which has hitherto been accomplished by one, but that there is an opportunity and call for more work in this direction than can be performed. If in accordance with the statutes of the Commonwealth the prudential affairs and office work shall be committed to a clerk, the superintendent will be left free to give his whole time to the schools; studying the educational literature of the day; familiarizing his mind with the most recent methods and suggestions of the science of our time, then bringing the results of his experience and judgment to bear by consulting with the teachers, and advising them, and the presence and power felt throughout our schools. Libera



money, though some might cry, "why this cost?" would amply community in results beyond the reach of money to measure.

method is to hold scholars more rigidly to the prescribed course. After several years of careful attention to the subject, examinee laid down in other schools of similar rank, watching the experience in our own school to see how much is practicable in it, where the course might wisely be abridged or extended, and using it as occasion required, the committee now believe that nothing is embraced in the course prescribed, that all it contains is for instruction and discipline, and that all can be accomplished in a reasonable time without overtasking the mental or physical strength of any scholar with fair abilities and average health. We would here respectfully suggest, that the preparation of a curriculum of studies for a school course might fitly engage the attention of our State Board of Education.

Some degree of uniformity in our different cities and towns is desirable. And whatever the size or the circumstances of the school, the most desirable attainments of a four years' course would be, for the part, the same in all localities. A well wrought plan issued not as a compulsion, but of recommendation, would come with a weight of authority from the central board which would command respect and have a beneficial effect. Our aim has been to prepare a well balanced course in which departments of physics, mathematics, English literature and foreign languages should each furnish a line of continuous study, and each have its own place without monopolizing an undue share to the exclusion of any other. Though open to improvement it is at present giving general satisfaction. With its offer of elective studies it contains nothing that any scholar ever his destined calling or career in life, can afford to neglect. Why shall not all be held strictly to it as at West Point, at least in Primary Schools? But this uniformity can be secured only by the assent of parents. Inexperienced scholars, blind to their own interests, ignorant of the value of a study of which they yet know nothing, exaggerating its imagined difficulties, for the sake of an easy time too often persuade their over indulgent parents to excuse them from doing some study assigned, and thus cheat themselves of a valuable education and entail upon themselves a life-long loss.

*School Committee.—R. R. SHIPPEN.*

## HAMPSHIRE COUNTY

## AMHERST.

*Condition of the Schools.*—The year has been one of success for our schools. The most have been good, and some have been excellent. There has been more of a spirit of scholarship and good order than has been expected, as the natural fruit of our system. The culture of the Primary Schools, and flowing on from year to year, is increasing in height and beauty in the Grammar and High Schools. It is not to see the difference between a systematic course of study and a haphazard course. The one gives a finished, and, so far as it goes, a liberal education,—the other finished nothing, and left the education incomplete. Those who are familiar with the scholarship under the old method, know that under the new, need not be told that the difference is very great. Indeed, culture under the old method, was scarce. Nobody sought it, or expected it,—but, under the new, it comes naturally as fruit from the tree. Our graduates may be seen among educated men and women.

*Superintendent of Schools.*—In accordance with a vote of the town, a committee engaged the services of Rev. C. L. Woodworth as superintendent of schools, at an annual salary of \$450. The care of the schools has mainly fallen upon him. The committee, however, have aided him, either by advice or labor, when called upon. He has been required to be present at the close of the schools, and at the annual examinations of the scholars for promotion to the higher grades. Between the superintendent, there has been the utmost harmony of cooperation. Unfortunately for the experiment, the superintendent was obliged to leave the field of labor, and was obliged to resign about the middle of the term. But the trial went far enough to satisfy the committee that it ought to be made a permanent one. It stands clear, that the control of the entire educational work of the town, could be better managed by a system in whole and in detail, and give it unity and efficiency. A committee of several, giving such odds and ends of advice as they could command, could possibly do. One man, commanding the whole field in mind, would be familiar with the wants of the schools, would hold the teachers to the system, and would give the scholarship of the town the same spirit and discipline. It is recommended, that an appropriation be made for superintending the schools the year, not less than was made the year past.



*Ideas.*—It is a common fallacy, that education consists in going "doing"—a given set of text-books. Scholarship is too frequented by the amount of books which the pupil has "done." On round, persons are often recommended as competent to assume of teachers. And yet in both cases, education may mean simply the mind lack real discipline and power. The constant tendency of the school-room is to memorize the text-book,—to learn words, and not ideas. And the fault here is quite as much the fault with teachers as with pupils. It is possible, we think, under such a notion, for the scholar to be first in his recitations, to know least. He may, by an effort to remember, have lumbered his mind with the words of others, while his faculties are as weak, and his mind as destitute of thought, as an infant's. Every student knows the meaning of "cramming," and the preparation for an examination, and how speedily everything is forgotten on the special occasion which called for the effort. The memory is not a faculty to be relied on, in the education of the child, until he is twelve or fifteen years of age. Hence those studies which require to be memorized, should be pursued during these years, as geography and the like. And the committee suggest it to themselves, that those studies which may require careful review, whether mathematics, sciences, or the use of the analytical and reasoning powers, are not too extensively introduced into our Primary Schools. Nevertheless, we would not forget, that the great object of our education is to train the pupil to think, to give him a trained mind, able to master principles, and to grapple with the varied questions which interest our human life.

*Condition of the Schools.*—We wish we could speak as favorably of the condition of the schools as we can of their intellectual. The primary school is not chiefly for moral and religious instruction, and yet the parents and guardians have striven continually to educate the conscience of the child as well as their intellects. We would not assert that the public condition of the schools is not on the side of order and honor, yet in many cases, there has been evinced a lack of moral honesty which is

It is a question which ought to be very seriously considered, as connected with our seven or eight churches and Sabbath schools, we are sometimes sending public criminals. In two instances, at least, small boys have been themselves gravely responsible to the law, and it might have been prevented, perhaps, with good effect in other instances. These boys were not criminals by the schools, but in spite of the schools. Had the schools done the church done their duty as faithfully as the schools, there would have been, we believe, no occasion to call upon the law. We have sometimes seen immorality and obscenity punishable offences, and have, in a measure, succeeded in banishing them from our school-grounds and school-rooms; but we cannot all we eradicate the evil habit, while parents and public senti-

ment allow their use elsewhere? This work of moral education belongs mainly in the family and the church, and if it is not imparted there, we ought to be surprised if the Public School fails to impart it.

*Boys Unemployed.*—It may admit of a question, whether the present condition of labor is not also the condition of virtue. The child has nothing to do beyond attending school from year to year, has, it seems, something more than a healthful leisure. And where any considerable number of such children are growing up together in a community, it is not difficult to see that they will lay their heads together for mischief and will corrupt each other. We are not so sure that wisdom is wisdom. Possibly the old way was the best. The boy used to gain health and strength in honest toil,—he learned the lesson of industry, self-reliance and independence. Now the fathers toil and the children idle. This remark applies to a class that is growing larger from year to year. Is it not possible that legislation will need to employ its suasion by and by, to compel every child to work at some useful occupation a given part of every year, as we now attend school for a certain time? We do not speak positively,—we suggest. The evil we have named is great; let every friend of our children and youth be on the look-out to correct it.

*High School.*—The success of our educational system depends largely on the High School. This stimulates and lifts up all the schools below, and, as a general fact, they will be what the High School makes them. It demands, as a ground for admission, nice and accurate scholarship, it can be secured, otherwise not. The reputation of our schools abroad, depends mainly on the character of the High School, and people will be invited here for educational purposes, just as the High School maintains its elevated position, and dignifies the entire system. The citizens of our town need not be told, that the schools have paid for themselves, many times over, in the wealth brought here by those who have sought the town as a place to educate their children. While it would be difficult to estimate the increased valuation of the town, in consequence of the high character of our Public Schools, every owner of real estate in the town knows that, within the last five years, his property has increased in value from a quarter to a third, while the tendency is still upward, and the explanation of it is, our town has become exceedingly desirable as a place in which to educate. The taxes of the citizens have been paid back to them many fold, by the added value of their farms, their factories, and their homes. A policy, therefore, which has been so eminently profitable for the pecuniary, as well as the educational weal of the town, will not be changed or given up. Our town will see to it, that the schools do not languish for the lack of any thing needful to their highest success. We are confident that you will give the same liberal and fostering care in the future that you have given in the past.

*School Committee.*—R. B. HUBBARD, J. H. SEELYE, W. A. DICKINSON.



## BELCHERTOWN.

The districts of the town should be so arranged as to accommodate to all, and, at the same time, make the different schools more nearly equal. In this we think, some change to advantage. Where they might be united with others. This would lessen, and increase the length of the terms. For as much per scholar for a school six months in it does in some of the larger districts. This is in other portions of the town. Could the number of it would, on many accounts, be a gain. It certainly consider whether it cannot and ought not to be done. Expended last year three thousand dollars for school purposes in the right direction. The average length of consequence, a little more more than six months. The length will be still greater, because we did not derive increased appropriation of last spring, until this winter. Our School system is a munificent one. It is our duty to have failed, hitherto, fully to comply with its requirements in adapting it to our extended territory, but if we will. We rejoice in the increasing interest manifested in the cause of education. We believe that now in progress, the design of which is to procure a school of higher grade, presages the dawn of a new era for schools and for the town itself. Let us labor on.

WILLIAM N. FAY, GEORGE O. HANNUM, PHILO D. WINTER.

## ENFIELD.

The committee is chosen because he has never held the office. Now, it is his turn; he is a kind neighbor and a good citizen, but not least, he will hire a cheap teacher and the probability is, he has not visited a school in the town as well qualified to select a captain to navigate the school to take charge of a Public School. If he is not posted during the year, by observation and reading, it would be too late for the first year, and of no use he must let his neighbor have his turn in honor, and give a friend.

What is the committee doing? The candidate has been hired, and the school is in place. Notice has been given that the school

will begin that morning, and the prudential committee brings the young lady, with trunk and band-box, to be examined and approved. She is well qualified to teach; but in a social point of view is a worthy young lady, and ought not to be disgraced. The prudential committee think she has done well, and he might not do any better if sent back a dozen more. What shall we do? Give her a certificate of course! A man with his hands and feet tied, your committee have found, is very much at the mercy of circumstances.

It seems to us advisable to do—as the most intelligent towns have done—to throw aside the miserable system of districts, and have fewer schools and better ones—more scholars and more terms—more expensive and better teachers. Let those who are the best posted select the teachers; and when they acquire experience, keep them in office till better can be found to take their places.

*School Committee.*—J. A. SEYMOUR, G. KNIGHT, W. B. KIMBALL.

### GRANBY.

More attention has been given to reading and spelling than formerly, and with marked success. These are branches which should have particular prominence, because they are refined accomplishments, and are indispensable in pursuing other branches successfully. The art of teaching to read and spell is by no means perfected. Scholars are generally allowed to read too much, while the manner of reading is neglected. Reading through book after book amounts to nothing, while the scholar knows little or nothing of the principles of good reading. He should not be allowed to leave a piece until he has mastered it in every particular, even if he learns it "by heart." Tone of voice should receive attention, as well as articulation, accent, emphasis and inflection. It is gratifying to find that this subject is receiving increased attention.

*School Committee.*—S. M. COOK, H. H. STERNS.

### HADLEY.

It ought to be kept in view by those who desire to see our Common Schools steadily improving, and accomplishing the important ends they contemplate, (and to this class we confidently assume the great majority of our own citizens to belong,) that these results can be secured, not by a single agency, but only by the combination of several pre-requisite conditions. There is need of the school-house, suitably located and built, and supplied with the various necessary conveniences for study,—and this it belongs to the community to furnish. A judicious outline of study must be prescribed, such as it is ascertained by experience that a scholar of average



with profit. And furthermore, and commonly much, the actual business of education must be committed to a qualified teacher. It perhaps admits of question whether the probability of this last-mentioned condition is popularly supposed to be, particularly with regard to the schools of the country. Many seem to have the impression that any young man who has spent a year or awhile at an academy, or has received a diploma from a college,—is fit to teach a District School. Such schools are often the only employment those who design to devote themselves to teaching can find, a convenient field for making the first step in their career, their inexperience, in which if they succeed they may expect promotion to a higher sphere, and if they do not, the consequence is but a little consequence—for it is only a District School.

Or, they furnish a reputable and not altogether unprofitable means of earning a moderate support to those who are in the habit of teaching, or are desirous of maintaining themselves in the profession. If within the district resides a family of limited means, which has with commendable energy obtained an education for a child, a school in the district is not seldom looked to as the only means of obtaining the scanty resources of the household may be eked out. A young lady who has held a creditable position in her classes in a school, and has experimented for a few months, no great objection will be made to permitting her to "try her hand" for a year in a District School. So, on the contrary, the prudential committee, adopting the same general estimate of the relative value of the different grades of education, is too often disposed to consider the different branches, first of all which of them can be procured at the least expense, and then of the amount. Sometimes, too, it happens that the funds at the disposal of the district are so limited in amount, that, however enlightened his views, the superintendent presented to him is to engage a cheap teacher, or by the sacrifice of the quality of the instruction to save enough to secure the services of one demanding larger remuneration.

To admit that this subject is one on which something can be said on both sides, and which has its serious practical difficulties,—that one arising from inadequate appropriation of funds, and another that one arising from inadequate appropriation of funds, is the hardest to overcome. But we are strongly of opinion that the question referred to, as to the qualifications requisite for a teacher of a District School as it should be taught, is both entirely erroneous. The young lady graduate of a High School, who has been brought up to be familiar with all the studies of a District School; and of course such knowledge is an indispensable requisite to successful instruction. But it is very far from

true, as every year's experience proves afresh, that the candidate, who pass the slight formal examination required in the elementary branch knowledge, is therefore fit to assume the office and responsibility of teacher. The self-control and skill to govern a company of children; aptness to teach; the quickness of intellect; the animation of manner which will stimulate the scholar's untrained and perhaps sluggish mind; thought;—these may still be wanting, and without these the school inevitably be substantially a failure.

*The Graded Schools.*—It is our privilege to congratulate the town heartily on the accomplishment in some good degree, during the past year, of an object which the friends of good education in this community long had greatly at heart—the systematic grading of the schools. This has been mainly brought about through the wise liberality, as we regard it, of the town, in the appropriation at the last annual meeting of a large sum for the erection of a High School building. It belongs to another committee to report to you the particulars of its construction. It is for us without dwelling on the faithful and patient care with which that committee has performed its duty of supervising the work in all its manifold details—to give expression to our own great gratification at seeing the completed structure, in its simplicity and yet graceful proportion a fitting architectural ornament now of our fair village, and destined—we trust to continue such for many years to come.

The conveniences which this structure furnishes for the purposes of education now make possible, what heretofore has been substantially out of the question, an arrangement of the schools of the town in a regularly ascending series, with a corresponding classification of studies. The advantage of such a system, experienced in close proportion to the thoroughness with which it is carried out, is too obvious to need to be formally argued. It is that which ordinarily attends judicious division of labor. As in any calling, so in that of the teacher; if his time is devoted to a few branches of study only, it is reasonable to expect that the results will be more satisfactory than if he is required to range over a large variety of studies, giving to each one only such brief and hasty attention as the scanty time allows. It is to the scholars that the great benefit of such an arrangement accrues. If from careful drilling in elementary lessons, and a clear apprehension of the simpler principles involved in them, they proceed step by step to more advanced studies, at each successive stage they will enjoy the advantage of such thoroughness in two ways—in the good habit of study which they will have been trained, and in acquired ability to understand and master the more difficult works of the higher schools.

The system, as now organized, though still in an incipient and imperfect state, admitting of the adoption of any modifications which further experience may recommend, embraces four grades, consisting of the Primary



istricts, the two Intermediate Schools in Hadley and Grammar Schools in the same localities, and the

he proposition made to the town by the trustees of which was accepted by the town, and its condition school is now in operation for the benefit of the citizen from all expense of tuition to them, at the sole charge. They pay the salary of the principal, they furnish with an assistant to hear recitations in the English and the requisite fuel. Only such repairs as from needed upon the building itself can occasion any cost necessary, we hope, to add anything to what has reports of the general committee, relative to the single advantages thus secured to the community. The growing up may be expected, under the present better facilities for acquiring a thorough and substantial have been heretofore provided by the town for before them.

ect of the new organization upon the scholarship of ready prepared to speak with a hopeful degree of evident, from the desire manifested on the part of Primary Schools to gain admission to those of a higher motion is esteemed by them a privilege. A new their minds to diligence in study, in order that they pass the appointed examinations. The same motive operate with still greater efficiency in the higher probable that there will be more frequent occasion to position to advance too fast for his own interest, than . The progress thus far made, the animation and the recitations, the growing orderliness of conduct tested by the pupils, seem very decidedly to augur the future.

WARD S. DWIGHT, ROWLAND AYRES, W. H. BEAMAN.

## HATFIELD.

committee feel that it is their duty to recommend a higher grade of education can be furnished our the Common School offers. Our argument is not it, but that the interests of the town, our duty to the economy in the expenditure of money, our own social, welfare require it. It is our opinion that this town portion to its population, as any town in the county,

for the cause of education. It is estimated that during the year more than three thousand dollars have been paid for the education of scholars abroad. Cannot a smaller sum be expended at home and give the same advantages to those who go abroad, and extend these advantages to all, and at the same time we have in our midst all the intellectual and religious benefit of such a school?

The town hall might, at a small expense, be so fitted up as to serve the purposes of a school-room. And a man, competent to give instruction in the higher English branches and the classical languages, for forty weeks, for from ten to twelve hundred dollars. The school might be opened for thirty or forty of our more advanced scholars, and all of the town. We believe that the stimulating effect of such a school upon the Primary Schools would be of incalculable worth. The scholars would be looking forward to it and make earnest efforts to obtain the needed qualifications for admission. We claim that such an economical arrangement for the town. Then our children would receive at home the education which they now acquire abroad, at an expense of between one and two thousand dollars yearly.

If parents or guardians are dissatisfied with a school, they should not destroy the most sacredly the reputation of the teacher and the scholars, and never utter a disparaging word before the public. They should seek redress through the committee. To attack the teacher simply upon the reports of the scholars is a course which would destroy all the schools in the Commonwealth. We wish parents to consider the high place which schools occupy in respect to the future of the State, and deliberate well before they, in irregular manner, lay down their hands. The committee have the charge of the schools and have the opportunities to judge of the qualifications of teachers, and to remove the teachers or make any needed change in the management of the schools necessary for its welfare. And we do earnestly request that parents lay their grievances to the committee, and not defame the teachers. It is for the whole district what might be a good school. It is the duty of any teacher to succeed if a few of the parents array themselves against her, while it is a very rare thing that a teacher fails if the parents are in their sympathy and support.

*School Committee.*—JOHN M. GREENE, REUBEN H. BELDEN, DAVID

## HUNTINGTON.

Another serious evil which tends to keep our schools in a poor condition, is the customary practice of changing teachers frequently. As long as this method is pursued we must expect that our schools will be spent without any adequate return.



essarily waste much time in becoming acquainted  
ing their abilities, where they left off, and where to  
her is prepared at the commencement of the term  
ncement to the scholars.

policy to retain an old and competent teacher, one  
n occupation, and therefore values a reputation  
r, than to fill the place with one whose ability is

J. COOK, EDWARD D. GREENWOOD, CHARLES H. KIRKLAND.

## NORTHAMPTON.

oned, if, before proceeding to details, we offer, as  
ience, some suggestions respecting our Primary

our Primary Schools should be the very best.

order that our entire system of schools may be  
e must begin right; and to do this, we must have  
ppropriate functions of our Primary Schools, and  
fulfil these functions. The great want—that with  
ct everywhere, is elemental training, thoroughness  
of knowledge. To supply this want is the appro-  
ary School. It should make good readers and  
ere and there one, making defects of the greater  
inent by contrast, but uniformly and everywhere.

teaching in our Primary Schools should aim at  
our children's activities.

he days are gone by never to return, when the  
Schools will, with the completion of their allotted  
o penance by sitting with folded hands bolt upright  
of each half day's session. We do not wonder at the  
or at the disgust which is felt for school-going, when  
dren are thus put to the torture. To sit perfectly  
ive child as unnatural as for an able-bodied man to  
compression of a strait-jacket. The processes of  
not in all its stages a pastime, but in all the earlier  
y should be made as far as possible attractive, or at  
be successful, the work of the teacher should be on  
sympathies, and should be helpful to him not by  
ely directing his impulses. Blessings on the man  
light gymnastics as an auxiliary in the teacher's  
the teacher who has the skill to use them so as to  
its. Yet there are those who think the time spent

in their practice wasted. To such we say,—overlooking all that has been said in their behalf as a means of physical development, their industry has been of almost inestimable value as a means of helping self-discipline. Our observation has taken note of this fact, that where it has been successfully used the schools have steadily improved in general order and are much more easily managed than where they are not. Give them by all means a chance to throw off their surplus vitality in an innocent, harmless way, and whatever apparent loss they may sustain will be more than counterbalanced in the end, by the improvement of the better elements of our children's character.

*School Committee.*—H. H. CHILSON, JOSIAH CLARK, S. L. HILL, WM. SIDNEY STRONG, WM. D. CLAPP.

### SOUTH HADLEY.

The design of our schools is not accomplished if our scholars are not thoroughly trained in the common branches. Certainly there is enough between the ages of five and fifteen to accomplish this. It is that the scholar should have so thorough a knowledge of arithmetic and grammar that he shall be able, unquestioned, to give a clear explanation of all the leading topics, and should know enough about geography to be able to draw maps of all the grand divisions of the globe and of the different States in the Union. He should be able to spell all the words, to write a letter correctly, and should have some knowledge of book-accounts. If it be asked why this, and even more, is not accomplished, the answer is that the frequent change of teachers, the irregularity of attendance, and often the undue number that the teacher is called to care for are among the principal reasons.

*School Committee.*—GEORGE BROOKS, NORMAN PRESTON, ELLIOT MONTAGUE.

### WARE.

*Meetings of School Committee and Teachers.*—It is our belief that no way can we do more to benefit the schools than by friendly intercourse and cheerful co-operation with the teachers. Between them and our Board a good understanding has existed the past year. This harmony of feeling has resulted, in no small degree, of the meetings of the Institute held fortnight during term-time. The attendance upon these meetings in the fall and winter was unusually large. Methods of teaching the different branches have been described and illustrated, and the fundamental principles of education have been familiarly discussed. Here also teachers stated their difficulties and discouragements, and found sympathetic counsel, which have made their burdens lighter and their labors more successful.



had the satisfaction of seeing at these meetings  
ne, may be the honored instructors of our children

2.—The highest interests of our schools require  
n securing instructors of the requisite qualifica-  
committee of the several districts should aim to  
ugh it be needful to grant them a more liberal  
vices. A short, good school is preferable to a long,  
ation, as in husbandry and the mechanic arts,—  
most profitable. Whatever is worthy to be done,

ssful a teacher should not only have the requisite  
igh moral qualities, but also be apt to teach, and  
alling. He should intently love his work, engag-  
l enthusiasm, and an all-controlling desire to be  
instruction in our schools regard their vocation  
whose frequent remark was, "If I were not a  
acher."

AM G. TUTTLE, GEORGE C. FENN, JOHN W. ROBINSON.

## WORTHINGTON.

rt, as well as the mental activity of the pupils, we  
rs, especially in summer, to allow the smaller  
ime in the open air. A child of tender years,  
ock six hours a day, will very likely soon become  
cal nature will be injured, and his intellectual  
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to teachers to come down intellectually nearer  
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ore familiar illustrations.

ght, no doubt, profitably be paid to moral instruc-  
basis of all that is valuable in education. It is  
Children should be taught clearly the distinction  
g. They should understand the various relations  
d and fellow-creatures, and the duties springing  
the importance of faithfully performing them. In  
ach other around the school-room, they may be  
of the practical duties of life. They should there  
ard each others' rights, to be tender of their feel-  
to others as they would that others should do to  
ebellion they should be taught not only to "fear  
r the king," and "to obey magistrates," that thus

they may become good citizens, and wholesome members of society. principles of the Bible, daily read in all our schools, should be shown to the pupils to be applicable to all the various relations of life, and to common every day duties of the different stations occupied.

*School Committee.*—J. H. BISBEE, E. J. RANDALL, R. T. CLARKE.

## HAMPDEN COUNTY.

### AGAWAM.

Who can estimate the evils that would result from allowing even a generation to grow up "between the ages of five and fifteen," without educational advantages? How would morals deteriorate, business decay, property diminish, and ignorance and vice abound? Who that loves intelligence and virtue, industry and thrift, honesty and good order, would wish to have his home among such a people? Would not morning papers and handbills announce—"The subscriber, wishing to change his place of residence, offers his house at auction," or "his farm at private sale, cheap cash?"

How ought you, then, to regard the calls which the cause of general education makes upon you? How ought you to aid the cause by manifesting an interest in the studies of your children, and in the condition and prosperity of the schools, and by discreetly endeavoring to correct anything faulty in the pupils, in the teachers, or in the people of the town—so discreetly as not to retard the work which you desire to advance? How ought you to avoid taking one step backward, by which you must abridge the educational privileges of your children?

Remember that the best jewels belonging to you or to the State, are your children whose minds are educated and refined. Consider the honor and happiness given to you in return for your care and cost in training them up in the way they should go. Remember the high position occupied by this Commonwealth in the Great Republic of States, because of the intelligence, virtue, and consequent industry, enterprise and wealth of its people. Consider and do, as you can, and, taking no step backward, will move steadily forward, bearing in your course the blessings of education to every child in the town, and receiving in return benefits of various forms and of inestimable worth. "Promote, then, as an object of prime importance, institutions for the general diffusion of knowledge."\*

*School Committee.*—RALPH PERRY, CYRUS BELL.

\* See Washington's Farewell Address.



CHICOPEE.

attention to a few suggestions relative to the par-  
 oles. In many of them there is a great need of  
 and some of the more simple forms of school  
 ough to furnish a school-room with desks, and  
 something more is needed—that is, if we intend  
 nd most improved means of instruction. One of  
 ofitable methods of teaching outline geography is  
 maps.” The introduction of these maps consti-  
 ng of this important part of geography, and daily  
 excellence. A large and beautifully colored map,  
 e several divisions and countries sharply marked  
 ivers well defined—the principal cities and towns  
 ge extent of coast, all presented at one view—is  
 ul in itself, but conveys to the mind a better idea  
 ity of the several states, countries, divisions and  
 pose the different portions into which the surface  
 ded. Each map representing one of these great  
 e the correct relations of each smaller state or  
 bold outlines marking these distinct boundaries ;  
 lakes and internal seas ; together with the oceans  
 rders ;—all of this, both in general and in detail,  
 ed upon the mind, that it is never forgotten.  
 p not only affords the best means of obtaining  
 most profitable and economical method of saving  
 d recited by one scholar, is at the same time seen  
 One explanation, and one correction of the mis-  
 es for the whole class ; and the knowledge of one  
 ly, the knowledge of the other. It also affords a  
 y for the younger scholars of the school to obtain  
 resting study. Unroll the beautiful map, and the  
 me tired and sleepy, are now wide awake and  
 l presents a new face, full of beauty, meaning and  
 n to the floor, and one after the other points out  
 ns on the map ; every eye follows, and it is not  
 gtest scholar almost unconsciously acquires a very  
 ne outlines of the study. Books of reference,  
 and Grammar Schools, are entirely wanting.  
 y furnished by the State long years ago, there is  
 ce in any of the lower or outside District Schools.  
 great aids in explaining and illustrating the sev-  
 for a complete and more perfect knowledge of

some of them, are absolutely essential. In some of the district grade of studies is pursued as in the High School, yet the student has nothing but his text-book, which is necessarily limited in its scope; consequently, his knowledge of the study is limited and imperfect, and can only be remedied by reference to works which contain a more extended illustration.

School apparatus to a limited amount should be provided for every school. There are but two or three schools in the whole town, and no apparatus, of any kind—not even a cheap, small globe, a geometrical frame, or blocks, or forms by which geometrical figures can be taught and easily explained; and as to any philosophical apparatus to illustrate the problems of the one, or exhibit the analysis of the other, that is entirely out of the question.

Every school should be liberally supplied with these valuable books for study; they should be furnished with illustrating maps and books of reference upon geography, history, grammar, and the natural sciences. It should be the rule "that whatever will better aid in giving the best education to our children, shall be generously supplied." Nothing is gained by a rigid parsimony; the money thus expended is not thrown away but will produce its fruit in due season.

There is one subject connected with our educational interests to which we would call your serious attention; it is to the large number of children who do not go to school. It is a lamentable fact, that so many children are growing up in our midst, who never enjoy the privileges so abundantly provided for them. In this town there was returned for the year 1880, the number of children between the ages of five and fifteen, 1,100; the average attendance at school, during that period, was 400. Where are the other three hundred and odd children? is a question of serious importance. The education of every child takes hold of the interests of the whole community, and demands the earnest attention of every citizen. In a government like ours, depending so much for its stability upon the intelligence and virtue of its subjects, their moral and intellectual training—becomes a matter of the highest importance; and every citizen should have enough of education to understand somewhat of its principles, and be prepared for its duties. In an ignorant man is a dangerous one, for he is easily made the tool of the wicked and the designing; and in the performance of his high duty—that of casting his vote—the very act may be fraught with the greatest evil and danger. This highest act of the citizen, he should be intelligent. The ballot is essentially the expression of his opinion; and when ballots are aggregated in a majority, they become laws. The less stupidity, ignorance and prejudice are allowed to be embodied in the opinion, the wiser and better will be the laws.



icated the people, the more virtuous and moral  
safe, free and perfect will be those institutions  
to elevate and ennoble them. Free institutions  
out popular education, for when the "ignorant  
er the intelligent vote, there is no surety of any  
shall give power and stability to those useful and  
ch free government is based." So also in all  
all those changes of public opinion whereby there  
pment of the essential interests of the people, in  
government, in the making and administration of  
ding and protection of civil and political rights, in  
lectual pursuits, the attainments of arts and of  
which tend most to exalt and improve them,—  
progress, how much more certain of success, if  
t and well educated. National safety, eminence  
ily be predicated upon universal intelligence and  
to be stability and permanence for our free insti-  
to be improved, the community and the nation  
best accomplished by spreading forth the light of  
ing and developing the public understanding.  
therefore possess, at least, a complete knowledge  
es of education. He should be so educated as to  
ng "the nature and functions of the government ;  
is under to yield a portion of his liberty to the  
obeying all the just laws of the community ; the  
perty ; the relation of capital to labor—of the  
; the laws of the production of wealth, and the  
ery child should therefore be trained to know and  
ideas of social economy and the primary duties  
lightened government discerns the truth of this.  
ons, their hopes of society, on universal education,  
give to each one the opportunity for improvement  
e has permitted for him."

B. STICKNEY, B. V. STEVENSON, SAMUEL ALVORD.

## LONGMEADOW.

Our system is somewhat peculiar—neither, on the  
m, nor, on the other, in all respects, the district  
ed compromise. For several years past, we have  
ential committee, formerly elected by the district.  
tees,—the town committee, elected by the town,  
, elected by the district,—these two committees

always working inharmoniously, each having separate duties and different prerogatives. Now, the town elects the sole committee, of nine members. The understanding is, however, that each of the districts shall be represented by one member residing in the district. The ninth member to be elected from the town at large. The objection to this was not only that the number of the school committee should be divisible by three, as required by law, but that there be a general superintendent of schools, on whom should mainly devolve the duties of training teachers and visiting schools, and who alone should receive the services rendered. This method of superintending schools belongs to the town or municipal system, and is usually peculiar to such cities and towns as require the undivided time and labor of the person charged with the duty.

But while seeming to adopt this feature of the town system, the town at the same time retain, in fact, one of the most questionable features of the district system, viz.: the old prudential committee. The eight members of the committee, although formally chosen by ballot in town meeting, are really chosen by the nomination of each district. Though called a school committee, they are, in fact, eight district committees, each nominating the teacher for his own district, contracting with the teacher, and having the personal charge of all that business pertaining to the district, which the prudential committee formerly had. So the town meeting, so called, is really not so much elected by the voice of, and in behalf of, the town, as by the extemporized nomination from somebody in each district who happens to be present at town meeting, and then the casting five or six ballots completes the election of somebody, who, for the next three years, feels more surprised than honored, for three years. In other words, the two systems run into each other and into confusion. On the one hand, the district, though imperfectly organized, or with no organization, has the school-house and school property, and has the care of it, in part; on the other hand, the town raises, appropriates and expends money for teachers and care of the school-house, in part. Our present system, then, is an attempted compromise between the town and the district systems. It becomes a serious inquiry whether it does not retain the evils of the one, without gaining the real advantages of the other.

*Disadvantages of our System.*—1. It hinders the efficiency of the school committee. First, by concentrating too much responsibility on one person—the superintendent. It is designed in the wise intention that the committee shall be elected—not, as the prudential committees often were, by dim candle-light in the corner of the district school-house, where a little minority consulted as to whose turn came next—but at town meeting, by the deliberate voice of the town, from among the public-spirited, impartial and intelligent citizens, selected for their fitness to be intrusted with the educational interests, not of



own. It is designed that they shall consult together in transaction of business, and that they continue on the same much permanency, at least, is indispensable to their success. We see how our present system tends to defeat this. After being served less than a year, begin to say, "We are not the committees, mere waiters to carry the teachers' demands for the wood and coal, to mend broken panes and pay the expenses, finding, and pay any remaining deficits out of our pockets; the majority resign; the committee is suddenly discontinued, made over by the extempore nomination of some other district, who will be chosen by five or six ballots, and will not resign on the spot, but be resigned. We have no less way of electing the committee, and this discontinuance of resignations, may not be traced, in part, to the fact that the superintending committee, and the old error of making the members as only the unpaid and unthanked and unpaid agents of the district, while their turn lasts. Would it not be in the interests of education in the long run, that the management of the schools be more equally divided, and that the responsibility with reference to such division of responsibility? Our present system is, the difficulty of properly managing the schools. Each committee-man's eye is apt to be directed, to get for his own school the largest reasonable salary, that particular school kept so many weeks, and so to the neglect of the view, the school has no relation to any other work to be accomplished. It is preparatory to the new teacher has her own time, and her own notions, and no clue, of what progress is. Very likely it is to take place, have often been taken back, to be put over the next year. This is easy, dull and listless. The examinations, do not go off well. But after a series of such experiments, the children do not get along fast enough. No progress is not graded. There is no High School as a goal for the graded course of studies—no standard to guide the teacher and pupils for her or her pupils. And so your children are marched and countermarched by every new teacher, and get tired of it, ever learning and never coming to the end of anything, and, perhaps, when just at the age to be fully educated, they leave school altogether, to suffer from this system of mixed schools, aimless schools and constantly changing teachers, made sure, earnest and rapid progress all high impossible. In these remarks, we leave the children under ten years of age. It is not

desirable that they should be put under any great stress of hard work. Their moral and physical development and their good behavior should be largely cared for. With due care in the selection of teachers, our Public Schools do very well under our present system. But the difficulties which have spoken of appear at a later period, damaging the superstructure of that higher education which should be builded on the corner-stones of our Primary Schools.

3. Another disadvantage of our present system is, that many parents, losing confidence in the Public Schools, withdraw their children. Their education is nipped in the bud by the untimely frosts of discouragement, indifference, or else, at much inconvenience and extra expense, they remove their children out of town, or raise up private schools in their own villages. We raise no objections to private schools and academies. They have their place, and are often indispensable. But we insist that they should not thrive on the unnecessary failure of our Public School system. That may be the case, however, when leading citizens and the most intelligent of a community withdraw such a number of the promising children, they deprive the Public School of its best material, its ornaments, its credit, and its hope. And this they will do where the schools are stunted, irregular, unclassified, and have no High School to compact and complete the system.

Such, as it seems to us, are some of the disadvantages incident to our present system. It is not the best working system, especially when we look at the higher education, which ought to be accessible to all our children. With our best intentions, the tendency is to slide back and stay in the old ruts. The committee will be carelessly elected, and when elected will not stand, the main responsibility will be shifted about, and if it is put on a superintendent, it is a temporary and uncertain expedient. If not fitted for it, he may not have time for it. Though answering the purpose just now, his patience and courage may give out, he may, at any moment resign, like the rest, or he may demand the compensation proper to thorough performance of the work and so become too expensive.

*Our Prospects.*—Reasoning, therefore, both from past experience and the nature of the case, our fear is that, under the present system, the progress of our schools will be but temporary and halting. For a time, perhaps a year, the tokens will be comparatively encouraging. By some good teachers the scholars will be above the average and a little more permanent than usual, but the next year, perhaps, with a new committee, changed teachers, and no definite plans to guide and stimulate towards a higher education, the schools will slide back again, more parents will become discouraged, indifferent, new secessions of the brightest scholars will weaken the Public Schools, and build up private schools by new demands upon the parents and the pockets of many who can ill afford it.



pe that the above considerations will help to more thorough consideration and discussion. It is worth our serious inquiry, whether the system in full would not be better than this compromise with the system.

The committee would call the attention of the town to one subject, that has been often commented upon, but on which there is needed—perhaps a precept—line upon line—here a little, and there a little—until it is learned and practised; and that is the great importance of a selection of teachers. This is the hinge, the turning point, of our good or bad schools in the town.

Amount of supervision or effort on the part of others, can secure a school from a poor teacher; as well draw sweet water from a bitter well, or gather figs from thistles. It may be said that the committee would require to it that a poor teacher is not allowed to teach. But, when a candidate is brought forward for approbation, it is but a choice of whether to refuse or to approve; and the poor teacher almost always has the advantage of the doubt. In this matter, an ounce of prevention is much better than a pound of cure. The way is open to get a good teacher. It is a safe rule not to employ the first comer, because it is the first; nor to employ the one that can be obtained with the least expense, because of this minimum of trouble. The only safe rule is to employ the very best teacher for the school that you can get, with your means, and any reasonable amount of seeking. But never employ a teacher because his price is low. Some teachers are dear at any price, and others are worth all you are in any danger of paying them. It should be taken to learn a teacher's past success and scholarship. Success, if worth doing at all, is worth doing well. Our schools comprise one of the most important interests of the town, and are well worthy of careful attention and effort. A very careful selection of teachers is indispensable to securing good schools.

*School Committee.*—JOHN W. HARDING, A. B. PEABODY.

## LUDLOW.

The practice of employing the same teacher for a number of terms in our schools, when they have proved their ability and their fitness for the position, cannot be too strongly commended. Teachers who have gained the confidence, respect and moral support of the community in which they live, and who have won the love and sympathy of the children whom they teach, will generally have but little trouble in the government of their schools. The high vantage ground occupied by such a teacher is exceedingly favorable for the inculcation of all the nobler sentiments and correct principles. The tendency in our schools is to attempt to accomplish

too much, to run to a multiplicity of classes. This no teacher can systematize and arrange in less than one term. The frequent change of teachers is destructive to pursuing anything like a systematic writing; the hieroglyphic cast given by many of our scholars' writing, is proof of this.

One almost insurmountable obstacle to retaining teachers permanently is the district system. The yearly change of prudential committees usually brings a change of teachers, sometimes for the better, but more for the worse; we not only lose the poor teachers, but fail to retain the good ones; and, although we may be more fortunate in the selection of teachers in some years, than we are others, yet it will be seen that the prospects for permanent advancement are not very great. This alone is a sufficient reason for abolishing the district system. The inequality of school privileges enjoyed by the different districts, has been frequently brought to the notice by your committees. One of our small districts has had but one term, (for a number of years,) of sometimes less than three months; others have had two and three terms. So long as the town is divided into districts, there will always be more or less objection to sending a teacher from one district to another. With the abandonment of the district system all this will disappear.

*School Committee.*—GEORGE R. CLARK, C. L. BUELL.

### SOUTHWICK.

The condition of the school-houses has more to do with the prospects of the schools than is generally supposed; still it may be a waste of time and paper and ink to say anything in regard to them. A Massachusetts gentleman in Virginia, during the rebellion, mentions seeing a school-house which was so poor that he estimated its value at four dollars and twelve and a half cents. He need not go so far again to find some of less value than this, indeed, which are valueless, and which, if removed out of the way, would be a public benefit. If parents could but change places with their children for a few days, just long enough to see and realize how poor the homes are in which they are obliged to occupy six hours each day, how much more than their own dwellings; if they could even be prevailed upon to take a look for themselves, of the narrow limits and smoky walls, and wretched chairs and desks and seats, and curtainless windows, and compare these with their own home comforts, it would seem as if it would not be long before houses and accommodations of a very different character would be the place of those now in use.

*School Committee.*—J. W. ROCKWELL, LUTHER FOWLER, G. A. STILES.



## SPRINGFIELD.

*Public Schools.*—The city government of the year 1865 created the office of superintendent of schools—requiring time and service of one man for the responsibilities of this office, and carrying into effect the plan of the board, which had been repeatedly recommended and urged by the board in its annual reports. The ordinance went into effect February 1st, 1865, and the committee consider themselves as sinning against the position, one so eminently qualified to fill it, as the present incumbent. He was appointed to the duties February 1st, 1865.

Since his supervision thus inaugurated, has in its operation exceeded the expectations of the committee. The superintendent has done much work among our schools, and if permitted to go on, will be hampered by cares and duties that do not properly allow him to accomplish results that will richly repay the expense incurred by the creation of this office.

At the last fall term, Mr. Parish, principal of the High School, tendered the office of superintendent of schools in the city, and tendered his resignation. Though the resignation when his withdrawal would be attended with much inconvenience, the committee did not feel at liberty to deny the request. Mr. Parish, in the years of his useful life, had devoted himself to the success of the advancement of our Public Schools, and of education in this community. The committee, in their opinion, have given expression to their sentiments in a resolution which are entered upon the records of the board, as a recognition of the invaluable services of Mr. Parish among us:—

Resolved, that the resignation of Mr. Parish, principal of the High School in this city, has been accepted of that office,—

and is hereby accepted.

And in the resignation of Mr. Parish, the committee desire to express the high appreciation which they entertain of him as a faithful teacher and of the laborious and invaluable services he has rendered to this community during the twenty-one years in which he has been among us.

And this as the cordial and unanimous opinion of the committee, in expression to the general sentiment of this community, that the numerous pupils who have been educated in the High School are indebted to Mr. Parish.

And in the new and important position to which he is now appointed of schools in a neighboring city, we trust and believe that he will achieve some signal success which has marked his efforts here; and commend him to the kind offices and co-operation of his friends.

new coadjutors in the work of education, and of the community in which labor.

*Voted*, That in parting with Mr. Parish the committee recur with pleasure to the courteous relations which have uniformly characterized their mutual course; and take this occasion to tender to him their earnest wishes for his welfare and success in all the relations of life.

*Voted*, That the secretary is directed to enter these votes upon the records of the committee, and that a copy of the same be furnished to Mr. Parish.

*Chairman.*—JOSIAH HOOKER.

*Evening School.*—This school continued but few weeks after I came to the city, but I became greatly interested in it. It was to me a very pleasant thing to see from one hundred to one hundred and twenty of our young men and women and youth, whose circumstances would not allow them to attend school during the day, assembling, after a day's labor, night after night for a series of weeks, that they might gain a knowledge of the rudiments of an education, as would in some degree enable them for citizenship and tend to make them useful to society. No school that the city can expend, unless it be for a reform school, of which I do not speak hereafter, can yield surer returns or larger profits.

The number attending at the opening of the school the present year was so great that I was compelled to establish another or lose the benefit of the first, and accordingly the Bridge Street school-house was opened for the same purpose and we have now in both about one hundred and eighty scholars. These schools are doing a good work, not only for those gathered there for instruction, but for the city, and furnish a practical illustration of the fact that when we help those who help themselves a double benefit is conferred.

*Class Examinations.*—This element, has already been introduced with your approval, into some of the schools, and will soon be into all. These examinations are not intended to supersede those of a more public character, though they may shorten them. It has been the practice to pass scholars from one school to another upon examination, and by this new feature scholars are passed from one class to another, or from one study to another, upon the same class upon examination. The idea is recognized that an examination does not naturally and necessarily belong to the end of a term or the end of a year, but to promotion, to the leaving of a study. If, for instance, it is proposed that a class leave Latin Reader and take Cæsar, leave arithmetic and take algebra, pass from any study lower in the course to a higher, it is due to the teacher and to the class that they be examined, so that it be determined, as fully as an examination of several hours, perhaps a whole day can determine, whether each individual in the class, and the class as a whole, is so fully acquainted with the ground passed over as ought to be advanced. This examination is conducted by the teacher, the committee, or superintendent conjointly. It is not taken wholly out



might be unjust to teacher and pupil, nor is it left and, for then it might fail entirely of its purpose. Prepared, they are promoted, if not, they drop back

ed, only that the teacher conducts the examination, as causes drop out of the school during the term, and of it. When they re-enter, they find that an examination and their class, and just here the system works measure, it is well worth all the trouble it makes. "long health" or "long confinement in school" or "sickly," or some one or more of the "thousand ills" that they shall be obliged to leave school," find the prospect of a private examination of a few hours, successful of body and mind, and able to remain. And accidents have proved fatal to their connection with the school. When made to understand about the examination, they are brought back to consciousness and the school, and examined with the class. When this system is fully adopted, it will be excellent in every grade of school.

It was spoken of in the report of last year as an evil, and greatly on the increase, and what was said then, with greater emphasis. It is an evil to be deplored, and to be remedied. The teachers have labored faithfully and have gone to the extent of their power, and have done, they have learned to their sorrow that no other school at Westborough is so full that no child can be taken from this portion of the State. A law passed last year, that children of the age of many of this class of offenders should be sent to a house of correction, nor ought they to be sent there to a suitable place in the city where truants can be taken. The officers have sought to bring the strong arm of the law to bear, they have found that the truants have the reins of power. All it seems to me that a remedy can be found. In the report of approval, several of our cities and larger towns to which the ordinary school systems could be made available for the purpose have been the obstacle mostly complained of by our officers in their special inquiries upon that subject. The plan is a good one, well, but it might not be adapted to Springfield. A course pursued, simple, cheap and practical, and within the proper scope and control of the ordinary school, is simply this. The teachers in the ordinary schools have done; they search out an absent pupil, follow him up, learn the cause of his absence, and seek to bring

him into school. This is called the "first step," but it does not secure the desired result for the worst class, nor does it at all reach those whose names are not found upon the school register, who are simply children in the street.

For such a "second step" is taken. A truant school is established, not only for truants, but the turbulent, the disobedient and the refractory. Any of the schools are sent to it, till they redeem their character and are permitted to return to their proper school. The master is made an agent, so that he may, if occasion calls, enter houses and bring out the children. The effect of this step is said to be most excellent upon the children of the city. But there are some in every city who, with their home discipline and street discipline bearing against them, cannot be rescued at this point, and for such a "third step" is taken. A school is established out from the city proper, with a school-yard and a fence that cannot be scaled, and with other required means of security. The mayor, the police marshal and the superintendent of schools constitute a commission, and when a boy cannot be reached by the former "steps" this commission makes complaint before the police judge, and he is sent up to the named school. It is only at this school that any extra expense is incurred. Cannot some such system be adopted for Springfield?

*Teachers' Institute.*—I will speak of a single other thing as essential to a perfect school system, and that is a Normal School for the training of teachers, but as that would be impracticable in a city of the size of Springfield, I will suggest that a Teachers' Institute held for a half day once a week, attended by the teachers and such as wished to be considered as candidates for places, employing the best teaching talent found in our country, and cherished and encouraged by the sympathies and the presence of the clergy, the school committee and the friends of education, that such an Institute, continued for five years, would produce a wonderful improvement in our schools. The teachers would become acquainted with each other, and with each others methods, greater uniformity would be secured, and fewer things learned by the children in one school would need to be relearned in another.

To find time for this Institute, the school-year might be reduced to thirty weeks, the number required by law, and thus the teachers spend no more time in school than now, and the children be in all respects the gainer.

*Superintendent of Schools.*—E. A. HUBBARD.

## TOLLAND.

The interests of education concern every person in town, since education elevates and blesses a community, just in proportion to its extent and the individuals composing that community. It is a benefit to the whole that the families of the poor are educated. It is a benefit to those



ritable means for the instruction of other persons' ded. The general state of society will in this way r toned morality will prevail, and large advantages y by those who gain knowledge, but by all classes. om the almshouse and trained up on our farms and o is sent to our Common Schools; and in them of an education, is likely to become not a burden, not a worthless vagabond, but a respectable mem- town where such a citizen is brought up, shares ult thus secured. Hence all the inhabitants of a rested in the progress of education, being urged ves of philanthropy and patriotism, at least by erest.

FORD, W. W. HARRISON, J. D. SLOCUM.

### WESTFIELD.

The Grammar School in the Green district is to be the next year. It is proposed to make it, together with the Primary Schools in that building, what may be used as a school for observation, or a school into which the pupils of the Normal School may go, and see the practical working of the teaching, recommended in the Normal School, and see the teaching of those who have been trained there, who have had no particular preparation for it. The Normal School building, not only the pupils of the Normal School may go, and see the practical working of the Normal system abroad, and teachers, who frequently visit the Normal School for themselves, whether there is, or can be, any thing new in the old methods of fifty years ago. The Board of Education has voted \$500 towards the support of such a school for the next year. The committee very cheerfully assent to the plan, and enable them to make the school better than it is now. It is not to be what is technically called a model school. The pupils go in as teachers, each for a few days; they are taught by teachers appointed by the committee, into which they go, and see the principles of teaching that are inculcated in the Normal School, and reduced to practice.

For this purpose, on account of its proximity to

Normal methods of teaching are to be adopted in this school. Teachers that understand them, and hence the principal nominates or recommends such graduates of that

institution, as, in his opinion, will best reduce them to practice. He nominated Mr. Tuttle as Principal of the Grammar School, and there have transferred him from the High School to this place.

*School Committee.*—EMERSON DAVIS, H. B. LEWIS, THOMAS KNEILL, JOHN J. W. WATERMAN, M. M. LLOYD.

## FRANKLIN COUNTY.

### BERNARDSTON.

The use of a school report is supposed to be that the community know the state of the schools, in order to take such action towards them as the case demands. But any beneficial action must proceed on correct ideas of the requirements of a good school, and of its requirements when they relate to parents as well as when they relate to teachers and scholars. Indeed, the qualification of parents has quite as much to do with the character of the school as that of teachers. Improvement, as with charity, begins at home. It is well, then, to consider some topics which relate particularly to the patrons of our schools as well as to those concerned.

1st. An interest in the school, in all that relates to its welfare and progress, is due to it from parents. We do not generally expect others to have a greater interest in our affairs than we do ourselves, and sometimes when they appear to do so, it is a ground of offence against them. Why should parents, who have not interest enough to take them to the school on their own term, blame teachers and scholars for a lack of interest? Is the unfaithfulness of teachers towards scholars more culpable than that of parents towards children? The best way to secure faithfulness at school is to be faithful to it ourselves.

2d. A comfortable and convenient place for work is generally considered desirable in order to work well. A convenient shop is what every mechanic will have, if he can. A convenient factory, office, store, or establishment of any kind, is necessary to the best prosecution of the business connected therewith. A school-house is no exception to this rule, the only thing that need not be comfortable and convenient, in order to do the work belonging to it most successfully. The only school-house in town that is really good, is in District No. 6.

3d. Habits of regularity and punctuality are quite as important as any one thing to the success of a school, or success in anything, and they



part of education as any of the branches of study. One at school, some things must be done at home; largely responsible for the character of scholars in perhaps the children who attend a school half or two-thirds kept, will succeed as well as people do in anything or pursuing it in the same shiftless way, and they will succeed any better. And they have no right to be kept back for them, and the whole class of which they are to suffer for their absence. It is hoped this cause is actually removed.

And, that some of our schools have been in session a longer time than in some years, leading to the suspicion, on the part of those for schooling have been diverted from their proper objects of other institutions. Nothing is farther from the truth than the town will show, all money raised or accruing has been exclusively appropriated to its legitimate objects. The schools are very plain. Wages of teachers are low, and where districts have not contributed something to them, it was necessarily short. We trust money enough has been raised to enable us to employ the best class of teachers, and to keep them at least seven months in the year.

B. BUTLER, C. T. CANFIELD, S. N. BROOKS.

## BUCKLAND,

Nothing has been made by the committee, or town, for furnishing books. The schools have supplied their scholars with books, except on request made to committee; the schools have all followed the recommendation of the committee in the books. It is very hard to find such a multiplicity of books in our schools.

MUEL TOBEY, JOHN H. ABBOTT.

## CHARLEMONT.

I have heretofore made some suggestions to the town in regard to the arrangement of the districts, and the impracticability of having so many schools, of such a character as is desirable by statute. This subject commends itself to the town, in view of the importance to the consideration of the town, in

view of the neglect of duty on the part of the committee. (See Report, p. 28.)

connection with the law passed by the last legislature. So, also, school-houses. This subject demands attention. Some are wholly for such a use, and most, in regard to their structure and internal arrangement need a thorough renovation. These are the places where our children and youth spend much of their time, and where they should not only acquire useful knowledge, but also sentiments and habits of neatness, beauty and order. But we do not propose to enlarge upon these subjects, but embody what we might otherwise say, in the recommendation of the town to accept of the provision of the law passed by the legislature in 1859, and adopt the town instead of the district system.

*School Committee.*—STEPHEN BATES, LYSANDER HILLMAN, A. H. TAYLOR.

### COLERAINE.

The whole number of weeks' schooling for the past year was 340 for the year preceding, 347; this falling off is, as we have before explained, in consequence of the higher wages which thorough teachers demand. To meet this deficiency we know of no way, except by the raising of money! Some say, hire teachers who will teach for less pay; but this is a bad policy, for a poor school is of little, or no value. We would not be understood to say that the success of a school depends upon the wages paid to teachers, but we do say that it is impossible to secure first-class teachers who are always the most profitable,—at the present day, without paying much higher wages than in former years. We would further recommend as a general rule, the employing of experienced lady teachers in our Common Schools, for we are satisfied, from the general appearance of our schools, that they are better adapted to teaching the younger scholars than a gentleman, while the older scholars have more respect for the lady teacher, the consequence is better order and further progress. In conclusion, we would say, if you would have your schools successful,—first supply a comfortable and pleasant school-room, then be particular and secure thoroughly efficient teachers for successive terms, and do not, because you have a general committee whose duty it is to look after the interest of each school, leave all for them, but let every parent take a personal\* interest, and visit the school at the commencement of the term, and again at the close of the year, you will thereby awaken a deeper interest, both in teacher and scholars, and be better able to judge of the progress made.\*

*School Committee.*—HEZEKIAH SMITH, DAVID A. SNOW, WARREN W. SMITH.

\* Attention is respectfully called to the fact, shown by the report from which this extract is made, that there are eighteen school districts in Coleraine, several of which the attendance did not exceed ten scholars.



## CONWAY.

attention to some points in which our schools greatly  
reading, there is, for the most part, a great lack of  
and power of expression. Not many really good  
our schools. Close attention on the part of the  
and correct example on the part of the teachers,  
in respect to this. In some instances much has  
but we fear that reading, writing and spelling are too  
subordinate place, instead of holding, as they ought,

times seen in our schools, is languor of manner. In  
depends on the teacher. A dull teacher will make a  
earnest, energetic teacher will, unless the pupils are  
exceedingly perverse, make an active, lively school.  
of the worst is a dead school. To accomplish any  
teacher and pupils must be alive, earnest, wide

in language is another defect to which we would  
rough, boorish forms of expression seem to be the  
the boys. And instances of gross profanity and  
not unknown among our scholars, though some of  
believe, entirely free from these forms of vice. The  
must rest principally with parents. So long as these  
come, we cannot expect that teachers will succeed in  
our schools.

in some of our schools for parents to request that  
passed before school is done. This practice is pro-

It interrupts the teacher, retards the progress of  
and renders those who remain uneasy, and diverts  
their lessons, besides depriving those who are thus  
to be derived from the closing exercises of the  
dismissals are necessary on some occasions, but  
will not to call for them too frequently.

this country is a government of the people and for  
the people ought to be acquainted with its form,  
institution. Many adults have but little knowledge  
ly there are men in this town who do not know how  
United States is chosen, or how he can be removed  
United States Senate is constituted. This subject  
in our schools. A small work upon it, adapted to  
would, we think, be useful. In the absence of this,

teachers might devote a portion of time, once a week or oftener, to conversation on the subject, or at least embrace opportunities for other lessons for giving instruction upon it.

*School Committee.*—R. A. COFFIN, J. V. LENTELL, E. CUTLER.

### DEERFIELD.

The general committee, in making their report of the school past year, desire to urge their fellow-citizens to co-operate more with them, and with the teachers employed in the town, to make them in every way more efficient. Passing over without remark other things which have been remarked upon in previous reports, they feel it necessary to call the attention of the districts to the evils arising from changing the teachers too frequently. In some of our districts, this is not committed. If a good teacher is once secured, pains are taken to retain her term after term, and the school is sure to show the results of such a course. In other districts, however, the teacher is changed as often as a new prudential committee is elected, and sometimes a new teacher almost every term.

It ought to be plain to all, that this frequent change of teachers is a bad thing for a school. Even if the teachers are all efficient, the prosperity of a school is much impaired by frequent changes. Different children require to be treated in different ways. Teachers must have a knowledge of the dispositions, capacities and advancement, and then adapt their instruction and discipline accordingly. Moreover, every teacher has some method of government and instruction peculiar to herself, to which scholars become accustomed before the school will be in a good condition. This requires a large part of the term, when a new teacher enters upon the charge of a school, for pupils and teacher to gain that acquaintance with each other which is indispensable in a well-ordered school. Often a whole term is required, before this mutual understanding can be brought about. Where changes of teachers are made two or three times a year, the scholars become confused. The ways of one teacher are no sooner learned than they must be forgotten, and the ways of another learned. Disorder and carelessness come in. Much time goes in unprofitably. There is no opportunity for the attachments to be formed between teacher and pupil, which often have such an important influence in helping the scholars forward.

Obvious as these considerations appear, many people do not seem to be aware of the impolicy of making these frequent changes. When the spring district meetings, new prudential committee-men are appointed, often in selecting teachers, the new officers think less of the interests of the schools under their charge, than they do of providing places for



rs, persons of experience, who have had excellent who have wished and expected to keep on, are sent away because the new prudential committee, on in the district, has some friend who needs the experience and high qualifications are disregarded. sent forward is young or deficient in knowledge. allowed to weigh besides a regard for the success passes without rebuke from the district, even education suffer very gravely.

ee earnestly recommend to the districts to pay . If a teacher has done well in a school, by all , even though the teacher whom it is proposed to ent reputation. Even if a school goes into good onths, must pass, before the embarrassments are and pupils are coming to a thorough mutual

understood that the proper principle to be fol- is regard for the interests of the schools. Citi- in their public duty, when prudential committees, uential positions, are allowed to use the schools to relatives and friends—making the interests of the

AWFORD, J. K. HOSMER, T. PACKARD.

## ERVING.

No. 3 made very fair progress. Some fault was because she did not give attention enough to certain ning that she was not competent to instruct in s not the case. If parents will consider the mat- ons and classes are to be heard in a school of ore, and the various hindrances and interruptions ring—they must certainly see that a teacher can- and do a complicated sum in arithmetic, which fteen or twenty minutes, or even more, to accom- ith the ordinary recitations. And, we think, if oles to their boarding places, and get them ready hours, that those having the care of scholars at d with the arrangement.

ese remarks, we would ask parents if they ever e finding fault with school teachers, how their a the management of their own children—in num- more, as the case may be—and unless they con-

sider school teachers something more than human, they must trials over and above their own by pretty large numbers, in a To manage a school according to the ideas of each individual guardian in the district, is an utter impossibility. School teachers liable to make mistakes as some of the parents; but, we think mistakes in a district, are oftenest made by the parents—creating a fault-finding spirit the conduct of the teacher, in the presence of children. It is the most effectual method, and seldom known to failing in the efficiency and usefulness of the school. Children who respect their teachers will not be likely to learn much under tuition; and how can you expect your children will respect a teacher whom you do not manifest any respect yourself? We wish parents to take this matter home to their consideration.

*School Committee.*—JAMES MOORE, A. R. ALBEE, CHARLES A. EDDY.

### GILL.

We wish to present some reasons for raising the appropriation for schools in the town. In the first place, money is not worth as it was three or four years ago. Five hundred dollars will not go as far as it did. To furnish the necessities of life now than four hundred would do. Teachers will command high pay for their services, and in order to keep our schools a profitable length, our prudential committees must find new means. Some of the school terms were shortened the past year for want of means to continue them. All know that an addition of four weeks to a good school of three months, is of more advantage to the pupils than the first weeks of the first part of the school. If we have the means to keep our schools open all year, we shall be likely, when we get an excellent teacher, to make the school worth something to us by continuing it.

One hundred dollars in addition to the five hundred raised last year would enable each district to prolong its term of school about two and fifty dollars some two weeks. Again we will suppose that if we have less money to be appropriated to schools, we save a little more of the world's goods for our children; what good will it do them, if on account of ignorance, they are unable to take care of it? We think it would be better to put a share of it into their heads by giving them a good education which will fit them for all the duties of life, and will be to them a never failing source of wealth which no one can deprive them of. A girl that does not have and improve the advantages of becoming a scholar, will find to their sorrow that they have missed a golden opportunity that can never be recovered. We all know the powerful influence of education and the person that forms the habit in youth of reading and thinking will be apt to continue to do so through life; while, if the habit is



likely to be neglected. We all instinctively love a natural, educated, truth-loving boy or girl. There is enough in town to be obliged, by the laws of the Public School, but there should be a law engraved in the minds of the people requiring that the means of education among us be such as the circumstances of the case will allow. If we have the Public Schools, let us unitedly endeavor to manage the six years of the youth may be the pride of and an honor to the town.

PURPLE, JOSIAH D. CANNING, LEONARD BARTON.

## GREENFIELD.

It is our schools should be a matter of great consideration. The "Massachusetts Teacher" contains a report of the physicians in Middlesex County, upon this subject. The following are the maxims in these maxims, which seem to your committee in this report:—

### MAXIMS.

Children should be allowed to attend school before the beginning of its 6th year.

Attendance (*including* time given to recess and physical exercises) should not exceed 4 1-2 hours for the Primary Schools; 6 hours for the High Schools.

Study required out of school,—unless at High Schools; not more than *one hour*.

Time should be devoted to play *outside the school-room*—unless in winter—and as this time rightly belongs to the pupils, they should be allowed to spend it except for some serious offence; and those who are not allowed to spend it in study; and no child should be in the school-room during an entire session. The *minimum* of study should be *minutes in each session*, and in Primary Schools there should be recess in each session.

Exercise should be used in school to prevent nervous and muscular monotony, but *not as muscular training*. It should be used with children for at least five minutes in every hour not devoted to "timed" by music. In Primary Schools every session should be by exercise, recess, or singing.

Exercise should be amply provided for by *other means than open play*. It should be used in addition to the special means, during the session.

Parents should permit their children to enter the school at the beginning of their sixth year. If they delayed one year they would be gainers rather than losers. If these

very young children are sent, the school hours should be so not to confine them more than two hours at each session.

*Ventilation.*—Our school-rooms, without exception, are unprovided with any proper means of ventilation. It is left to the care and for the teacher to open a window when she finds the room is getting thus exposing the pupils to sudden colds. But busied with her own work, she often fails to observe how close and foul the air has become. When he enters the room from without, and he will find the air sometimes unendurable and, of course, unhealthy and poisonous to the pupils breathing it. This whole matter of ventilation needs to be reformed.

*An Evening School.*—There are a large number of boys who come from the factories and whose days are all occupied, who have no means of educating themselves even the rudiments of an education. Released from school at night, they have no resort but the street and public places, and resort to but profane speech, and coarse, rough sports. They are growing up without getting their education in the street school, under the most debasing influences. They are preparing themselves to fill the ranks of our paupers and criminals. It would be very desirable, if possible, to secure a school for such of this class as could be induced to attend it. It is hardly possible to secure an adequate appropriation from the town for this purpose, for many of those who need such a school live without the town. But the committee would appeal to the charitable people of the town to open and sustain in the winter season an evening school for those who need it. In our charities, at least, let us annex Charitable School.

*School Committee.*—J. F. GRISWOLD, JOHN E. MOORS, P. VOORHEES F.

### LEVERETT.

Nearly all the failures that have occurred in our schools for the past year have arisen from putting the wrong teacher in the wrong school. A teacher well qualified to teach in one place or district will be sure to fail in another. It is not only doing the teacher an injury to put him or her in a place where they cannot manage, but a great injury to the future of the school. It is always a bad precedent to dismiss a teacher and far worse for the school than for the teacher. Endeavor then, we pray you, to select teachers with prudence and judgment so long as engaging them rests with the school themselves.

*School Committee.*—DAVID RICE, CHARLES BALL, OTIS CHITTENDEN.

### LEYDEN.

We would again urge upon your consideration a point which has been advanced in previous reports; that is, the importance and necessity of the examining committee being authorized to select and contract



would do with due respect for the ability and committees. It is evidently the intention of the g committee exercise this authority, unless, by a it is vested in other hands. Under the present nt teachers are employed and come before the no, when satisfied of their incompetency to man- as it should be, if they do their duty and refuse y cause opprobrious epithets to be heaped upon at they conceive to be their duty; while others, moral courage, being well aware of the delicate ntimes license those whom they know and feel to arge the arduous and responsible duties of a multitudes of would-be teachers who occupy posi-ualified to hold. Whereas, if the examining com-select the teachers, they might ascertain from a r qualifications for instructing, before contracting iate many of the disadvantages and difficulties ing under the present dispensation.

compelling the teacher to migrate from house to r her daily bread, is a relic of barbarism, destined come obsolete. If teachers know they are to be y boarding places, the profession is rendered more ot one single farthing more to board a teacher in han it does to board them all over the district. far distant when our law-makers will right this logical reason that can be given why the cost of d not be apportioned upon the property of the he other expenses of sustaining the school.

DARLING, Jr., S. T. DAVENPORT.

## MONROE.

I say, that for some reason or reasons, our schools to be, nor what they might be, with a little effort. o short. You do not raise money enough on the e there are so few scholars in town. To illus- ere one hundred scholars in town. Three dollars ive three hundred dollars for school purposes. our districts would give each district seventy-five and winter, which would not furnish the amount ires. But the actual number of scholars in town half a hundred, rendering it necessary to raise a mentioned, or some eight dollars on the scholar,

in order that each child in town may have the benefit of six months during the year. Do not be frightened at the sound of eight months for the scholar, for it makes not half so bad a sound as children growing in ignorance. There is no alternative. We must either have short schools or a liberal sum raised on the scholar. But short schools are a bad thing. They may be good while they last, but they do not last long enough to secure the best results. At the commencement of school time is necessarily spent in preliminary arrangements, in habituating scholars to the work of study and discipline, while the real improvement must be made, if made at all, toward the latter part of the term. And where the term is but two months, there is but less than a month left for such improvement, which is too short a time to mark progress in education. Short schools, and long vacations, are not to be the rule. For, when the mind of the child halts in the process of improvement, it does not remain stationary, retaining all its acquisitions for a fresh start at the commencement of the next term; it forgets many of the lessons already learned, and also loses much of the mental discipline it had acquired, and which it must spend time to pick over again, before it can go on with pleasure and success.

*School Committee.*—JEREMIAH GIFFORD, MIRANDA HINES, HENRY LEGG.

### MONTAGUE.

We are of the opinion that too much time is devoted by our scholars to the study of arithmetic; not that they are too good arithmeticians, but that they attempt to go over too much ground for the practical purposes of the study, and that first of all, practical arithmetic should be mastered and then theoretical. Mastered by all, beyond which the great mass of scholars can benefit. Their time on grammar, geography, history, book-keeping, &c., is too much. Those who wish to enter upon the higher mathematics will find ample opportunity in the higher schools and academies, the appropriate place for such study.

*School Committee.*—R. N. OAKMAN, SEYMOUR ROCKWELL, E. A. DEANE.

### NEW SALEM.

*Length of Schools.*—For a series of years the town has appropriated \$1,000 annually for educational purposes. The General Statute requires that each of the schools in town be kept for a period not less than six months during the year. By a recent Act of the legislature, to take effect in 1867, any town not complying with this provision of the law, forfeits its share of the school fund—between fifty and sixty dollars. It is deemed the part of wisdom for the town to place their children



der competent and judicious instructors. In thus we wish to be understood as encouraging no com-irous that the town should take the subject into nsideration, and act freely, in the exercise of a trust that your interest in the Public Schools will ch measures as will greatly extend their influence. y some harmonious arrangement, the size of the umber, it would secure a much more judicious . Experience seems to confirm the belief that thirty-five to forty-five pupils, judiciously classed rst-rate teachers, are most successful. Now if a tice to such a number, ten, fifteen or even twenty energy and a waste of money. We have twelve hundred and twenty-five scholars between the an average of eighteen and three-fourths to each nber of schools be reduced to seven or eight, it about thirty or thirty-five scholars to a school,— commit to the hands of an energetic, faithful

n an average, of eighty-three dollars and thirty- With the consolidation into seven or eight, we red and forty-two to each school, with the State population is so sparse that some inconvenience g the children, more particularly the younger children well is a great matter for every town, as emselves. All our interests—family, town, State, Knowledge is a mighty power, obtained only by ing, the self-sacrificing. It is worth travelling miles every day to make our own. Some portion y walking this distance, is needed for health an ust in the State, living two miles and a half from two years and a half, and was neither tardy nor e school-house is an obstacle, but in these days of ve almost annihilate distance. While we believe g, we also believe in making the school-rooms so so attractive, that it will almost level the hills, les of little account. Better far go three miles ht or nine months, than half a mile to a small, s to make it unsocial, and so short that no sys- sued. This hap-hazard course, completing noth- gmentary, renders the culture of the pupils just as much is accomplished as we can reasonably the schools would give more than six months'

instruction, with the same appropriation, and be economy, and interest of the town.

*School Committee.*—DAVID EASTMAN, B. W. FAY, J. A. SHAW.

### NORTHFIELD.

It is with pleasure we notice the practical evidence of increase in our schools, manifested by the enlargement of the annual twenty-five per centum. In 1864, we stood the nineteenth county in the amount appropriated for each scholar, there being towns appropriating a less sum. The increase alluded to is about the tenth in comparative position. This is a movement in the right direction, and it is to be hoped, that we may follow it by an increase in the future.

The average sum raised for each scholar in Franklin County was \$4.06; in Northfield, we raised but \$3.27. In the valuation appropriated to Public Schools the same year, seventeenth town in the county, there being but nine towns with a smaller proportion of their valuation for this purpose.

Our sister town of Warwick, which stands at the head of the list, although appropriating but little more per capita than we, raises \$4.14 to our one in proportion to the valuation of her tax-payers. Our new appropriation gives us together, with the income from the revenue, about \$4.14 to the scholar. The average expenditure per person in the State, between five and fifteen years of age, in 1865, was \$7.23. Having in mind the increased expense of living, and the consequent increase of teachers' wages, the advance being fully made, we cannot avoid the conclusion that the new appropriation will do more than the old.

It will be seen that we are yet a good deal behind the general average, and if there is any good reason why we as a community should not approach a little nearer the medium, your committee fail to see it.

The generous appreciation of the need of a larger sum for school purposes, evidenced by the increase made in 1865, when the town's appropriation was largely increased by other local causes, leads to the hope that we may make an appropriation that will put us upon a level with the other towns of the State.

*For the Committee.*—JOSEPH B. CALLENDER.

### ORANGE.

*Ventilation.*—Few, if any, of our school-rooms are well ventilated. Some of them are not ventilated at all. Nor is water kept from the stoves, so far as we have observed. The hot, dry, foul air



is very injurious to the health of the scholars; and one of our schools, that some scholars habitually of the term, and we receive one almost unvarying the reason,—“the scholars are all tired out.” At sweet, moist and pure, we should hear far less of difficult matter to ventilate our old school-rooms can be done by opening the windows at the top and vents induced by this method, are often productive injury in another form. A better method, and one in practice in all cases of repairing or rebuilding, the floor under the stove, to communicate by a side. The current of air, entering in this way, stove at once, and is consequently warmed before the room. By the above arrangement, pure, warm quantities sufficient to meet the wants of the pupils, the ceiling, or by lowering the windows at the top, in the upper part of the room can be passed off. If done upon, we should have far less headache and than we now do.

WOODWARD, SAM'L S. DEXTER.

### ROWE.

school was very small, consisting of only four the interest in teacher and scholar in a small large school. The teacher did well with what she the attendance, three and a half. Length of school,

is the settled conviction of all intelligent educators, so many schools. If in this town only four schools and work a great change for good. Much abler employed, much longer schools could be kept. The could be attained; and, we think, that if the change we never could be persuaded to return to the

EL P. EVERETT, NORMAN GOODNOE, JAMES M. FORD.

### SHELBURNE.

then pursued more generally in our schools this year at. Several teachers have used Calkins' work on ge. Object teaching is of great value in training perceive the parts, properties of and differences

between, the objects they every day see; thus forming an immensely important habit of observing,—a habit more frequently than any natural endowments, the distinguishing feature of man and one of the common order. Every man is not every one that knows how to see with them. We look for sight for that; and this, with other things, is what we contemplate. We hope our teachers will not overlook it.

In closing, we would express our pleasure at the amount of its unabated interest in the cause of popular education. A sum of five hundred dollars, was given the past year for this object. Yet it was not too much. The schools will be the most likely, not only to retain it, but also to attract those of other towns to it.

*School Committee.*—R. S. BILLINGS, A. J. SAGE, G. H.

#### WENDELL.

To require scholars to repeat words without a knowledge of what those words mean, fosters "the bad habit of rote learning by rote, which has been justly termed "an imposition upon the brain of childhood." We admit that definitions given in the text-book are correct, and in some cases while it is equally plain that no valuable knowledge is gained by the application of those rules and definitions to real life. We would say, the rule and definition are designed to express what is known. Hence the child has no use for them till he has reached the point to which they relate. Some of our best teachers, following the common method, kept their class the whole term repeating definitions and rules. We were constrained to ask, what profit? Could the class well gain any other knowledge than that it is a dry and useless study? We do not blame it when taught in this way.

The active, growing mind requires food, ideas, something to think and reason about. We would also remind teachers that geography relates to what actually has a location on the globe, not all mere abstract names of imaginary places, as some teachers imply. Neither do we consider that scholar properly educated who repeats the rules in arithmetic, and fails in the application to the simple, practical questions of every-day commerce. Recitations, have formed in the past too much of the routine of the room. We should as soon expect to make a good mechanic by telling him the names of tools, as a scholar



book. We say, the idea first. Beginning with the  
the unknown, is in conformity to the true law of  
only proper method of developing the mind.

BRIGHAM, ORIN ANDREWS, ANDREW BAKER.

## SHIRE COUNTY.

### ADAMS.

Primary School, if successful, must possess peculiar  
e in the care and management of small children—  
aptness in communicating ideas, and capacity to  
temper, rather than by harshness of disposition and  
l, that all teachers need the aforementioned qualifica-  
ers of Primary Schools, more especially. Your  
ve, in a good degree, avoided the commission of  
ly: employing young and unqualified teachers to  
ly, or gratify parents and friends. We believe the  
s to be, the selection and employment of compe-  
, (when that duty devolves on them,) and when-  
ool under their charge, a manifestly incompetent  
edy of speedy dismissal.

nselves to be employed as teachers should con-  
vell as fitness for such a position—their responsi-  
structors, and that of the committee who shall  
ject is simply pecuniary gain without a sincere  
ment of pupils who may be placed in their charge,  
accomplish that end, they should desist from mak-  
h youth. Failure of success in this important  
uld be, regarded as dishonorable. Parents who  
their sons or daughters for the purpose of gaining  
ossess not the requisite capacity and aptitude, are  
e, guilty of great indiscretion and moral wrong ;  
a or nurse wrath in their bosoms, towards that  
ve the principle and courage to thwart them in  
Your committee, during the past year, have  
ordance with the doctrine above inculcated, and  
rmination to adhere to it, even more firmly in the  
g the year to come. The aid of the whole com-

munity, and especially that of parents and guardians. To value human welfare and prosperity, is necessary to the great worldly interest; and all rational recommendations of superintendents, in regard to the maintenance and improvement of schools, should be cheerfully adopted, and every effort calculated for their advancement, seconded by all; or all will be to no improvement.

Your committee recommend, as the best means of improvement of schools in this town, enlarged appropriations for the payment of teachers in the Public Schools, who intend to continue in the profession, and who have been prepared therefore to receive discipline in Normal Schools, an increase of wages to qualify for teaching, and an effectual incentive to diligence and complete performance of their laborious and difficult duties.

*School Committee.*—F. O. SAYLES, L. M. BURLINGTON, S. J. ALFORD.

#### ALFORD.

Let us not therefore feel that we have only to do what we are. Let us bear in mind, too, that the direction will be an alteration of something which we should be careful not to oppose it, simply because it is an improvement that we ought to make some changes. It would greatly increase the prosperity and usefulness of our schools, as your committee could employ, for a term or two, if no longer, persons trained for teaching, in our Normal Schools. They would give us able ideas and give us examples of teaching according to the now known. Especially they would bring out and improve the school now so neglected, namely, the cultivation of the outward proprieties. Certainly it is as essential to the character of a man that he should know how to demean himself properly as that he should be able to solve a problem in the "rule of three." The purpose of the Common Schools was that in them the pupils should not only be instructed in learning, but in religion and in civility to God and to each other. And a school whose aim is to earn money does not rest on appeal, open or tacit, to the community. The pupils, must miss all its best result. Let us then give the steady and firm support, the teacher who faithfully discharges the department of scholars, not only while they are in school but ever they are. While they are under him he is educating them and this involves and requires a control, to some extent, over their life.

*School Committee.*—BENTON E. STODDARD, SILAS S. DEAN.



# BECKET.

houses should be properly, comfortably, conveniently neat and tidy—should be in accordance with usefulness. In such places our children will possess a nicer sense of propriety, develop a cheerful spirit and appearance, and find less Let our school-houses be so constructed that the comfortably seated while there as they are at home. six hours of the day, five days in the week, twenty or sixty in the term, in our schools, as do our y will spend this time in their easy chairs at quire them to be at school? Very few, if any, then compel our children to sit upon backless ge of a board—upon benches which force them to about face” to find a comfortable position, throw- the evolution? Let us reflect thereupon and good of our youth. Let also the ornamental of d or grace outside the halls where our children the last, rudiments of their education. These carried into execution, will contribute to their r moral, yea, their æsthetical development.

good school-house is a sufficient supply of black- nearly all our school-houses are very deficient. piece at which perhaps two scholars may be ot extend this the whole length of the school- more, so that a large class in mathematics can be employed during the recitation? This is as

the school-room is a series of good outline geo- will greatly aid the scholar in his pursuit of this ledge is often more indelibly impressed upon the f vision, than it is by means of any other of the

school-houses. Whose property should they be? d when extensive repairs are to be made? To the committee believe the town should do this. the town should extensively repair; the town can more easily bear the expense which will asionally, can locate the houses in the several and hard feeling than the district can do, and her grade of architecture than can they without emselves. Moreover this can be done without

the abolition of the district system, or jarring observation shows.

The committee reiterate the opinion already Becket there should be a Public High School for the whole town, six months in the year, embracing the whole town. We need to elevate the standard of our schools; our children at home; to do so abroad is expensive. Teachers will possess a higher culture than they have within our own limits more who will be qualified to have. We need also to give our teachers a steady salary around is unpleasant and unprofitable for them, and its practice, their early acquaintance with the subject receive such to their homes only near the close of the year at all. Then in reality the expense of a steady salary is much greater than a shifting one; and in this respect. Now to qualify our youth to become good teachers with pleasant homes, may take more money than they have but in the end will it not prove the most economical. Then as to teachers' wages. Is it reasonable, is it to work for less pay than they now receive? Is it to retrench if we would obtain good and continuous

*School Committee.*—A. W. CROSS, JOHN HARTWELL,

## CLARKSBURG.

Our town is so sparsely settled, it has been thought that four schools. In this respect, your committee would like a change, and that the four districts as now consist of two. There are many reasons why this change would to your committee, be of great benefit. Among the reasons the following:—

The schools could be twice as long, while the children receive three or four times the benefit from the same expenditure. Constituted, much of the money expended is produced by the present system, or rather want of system, necessitated by short and long vacations. A considerable part of the year is regaining what has been lost during the preceding year. The child has but a confused remembrance of what was accomplished last term, and feeling obliged to start from about the beginning becomes discouraged even at the commencement. Under such circumstances, seems to him a very unprofitable. Too strongly the comparison between his rate of progress and the frog in getting out of the well. This natural

antages. The habits formed in the school-room that the boy is father to the man is a terrible. Just such boys as you find in the school-room, the world. Teach a boy to be diligent, respectful, have prepared for society an energetic, influential. That like produces like, is no more true in its and intellectual application.

outh are woven into the web of life with influences sterner shades of manhood. The smaller the able. Hence we say, if a boy is met with disappointment, upon the very threshold of life, he insensibly ce and recklessness, loses ambition and a desire lifts out upon the ocean of life the lawful prey of influences thrown around the scholars attending not be too closely watched. It would be easy in how strong and direct the relation between the and prosperity of our common country. 'Tis taken the tender plants that are to blossom in all shelter beneath their branches the civil and world. By consolidation, the schools would be greater emulation on the part of both teacher and is no fair opportunity to show a capacity for fulfillment so responsible. However earnest the purpose schools are so short there is no sufficient opportunity manifest. And so the teacher becomes content quietly as possible, without incurring the risk of

ulting from consolidation, would be the erection while the present ones are not to be classed with "pig sties," still they are not such as we should. They have, perhaps, received less attention than not a strong expectation of consolidation been have been continually deferred by repairs upon

R KETCHUM, ELI T. CLARK.

## DALTON.

Schools the past year have been excellent in a fully all have been more than satisfactory. The on the whole, a brilliant success. A little more have made the teacher more successful in her the larger boys. But of the training enjoyed, and



the progress made by the diligent and faithful scholars, is too high terms. Miss F. is herself an unusual scholar, and the character of her instruction has been such. There was a finish and elegance about the exercises in the examination rarely witnessed in such a school. The progress of the classes in Latin and the higher mathematics was a fine thing that our pupils were able to begin the studies of under such a teacher.

We think the time has now arrived when our schools should be placed upon a more satisfactory basis. Many of our scholars are far advanced in their studies as to need a more advanced course than can be obtained for \$300 a year. In our judgment, say, in that of many of our leading citizens, this cost should be at least doubled.

We congratulate the town also in having at last completed the business of re-building our school-houses. In time to see our present antediluvian edifices replaced by new ones, not only neat and commodious, but an honor to the town will be liberal in its appropriations for the purpose, that we are building once for all. Let us have schools that we be satisfied with, and proud of in coming years.

*School Committee.*—A. S. PEASE, E. L. CLARK, H. M.

## EGREMONT.

Your committee are happy to report an increase in the schools in reading and spelling. This is due to the recent change in text-books in these branches. The freshness of such changes at suitable intervals in the curriculum, awakening a fresh interest in them on the part of the scholars, branches, reading and spelling, have fallen of late years of prominence in our Common Schools, and it is therefore gratifying that they are beginning to receive this increased attention. In these is an acquisition of real value, and one of which we hope to see it an object of more diligent effort than

The efforts of your committee to fulfil their duties have been much restricted for the want of proper control of the schools in charge. The vote passed from year to year authorizing the town to hire the teachers, is, we must be allowed to say, a hindrance to public education. It virtually ties the hands of the committee so that they cannot act as efficiently and wisely as they could under their direction and control. Neither in the management nor in the superintendence of the schools, are the

benefits of a town committee, as required by  
post. To some it may seem more democratic to  
s to district agents; but if it is less democratic  
s to the town committee, than other affairs to  
have only to say "we do not see it." We feel  
the wishes of the districts would be quite as  
schools greatly improved.

of selecting teachers is one which your present  
ave for themselves. They may not be compe-  
ould gladly step aside for others with whom the  
ist it. They simply desire that the thing may

AZEN, R. H. NORTON, J. H. ROWLEY.

### HANCOCK.

to desire a position they can well fill; but, we  
fice of a teacher, though desiring a good thing,  
count the cost. We do not mean the cost to  
s and board, but, whether the teacher shall be  
rtaking, be master or mistress of the situation,  
hold command of the position; in short, be  
t place!

TS, W. H. LAPHAM, W. H. HADSELL.

### HINSDALE.

presenting to you their annual school report,  
tion and encouragement, in the fact that, amid  
as brought upon us in consequence of war, our  
ation, as a municipality, have not been dimin-  
yond those of former years, and on the part of  
t and corresponding liberality have been mani-  
e High School, as well entitles them to grateful  
uld also mention in this connection, the faith-  
their efforts to promote the best welfare of their  
resulted, in our opinion, in a degree of useful-  
ed, in any former years.

rious efforts may be shown, in part, by the fol-  
of money raised by tax for Common Schools,  
raised by tax for High School, \$700; making  
schools, \$1,900. Amount raised by voluntary  
ol, \$655.



When the action of the town made it the duty in establishing a High School, the difficulties and movement presented themselves with considerable force, made us feel somewhat doubtful of results. The minds,—Can pecuniary means be obtained sufficient to continue an efficient teacher? Have we scholars enough to support a High School, without taking from our Common Schools? Can the patrons of the school grant a cheerful acquiescence to the exercise of that controlling power in deciding what studies ought to be pursued, which the statute gives?

Having a lively sense of the responsibilities resting upon the Board of Education, and the influence of the action of the general good, in view of the difficulties that have gone forth to action in consort with your advice, we have rendered us most valuable aid; and whenever they have been mistakes in judgment, not in any best good. And we are happy to say, that what we now have assurance. We have obtained a teacher who is efficient in all respects. Pecuniary means have been sufficient to continue the school under his instruction; we have secured a good school, by admitting some from other towns, rather than to lower the standard of qualifications, to the Common Schools. There has been, in general, a cheerful acquiescence on the part of parents, to the action of the committee, in the selection of teachers necessary to membership, although there have been a few cases. To such, we would recommend careful consideration and condemnation. In short, we feel that the school is a success in itself, but its influence has been felt for good in inspiring the larger scholars with increasing ambition, and that we can so reasonably hope that it will continue to be a faithful and efficient teacher, an institution worthy of which the aspirations of our youth shall turn with confidence to them to diligence in the use of Common Schools, and qualified to go in and enjoy the high advantages of a High School.

Should your action to-day decide in favor of the establishment of a High School, the question will be, What ought we to do under the circumstances? We should, in our opinion, steadily seek out and secure for our school committee, our ablest and best men in point of views, and then commit to them, subject to your approval, at any time, the adoption and prosecution of a system of studies, principles and measures, having in view the best interests of the town. The cause needs not the uncertain action of a majority, only so far as is necessary to secure your best and most steady action of our wisest men. And we think



the teachers, because it is their special duty to  
 , and there can be no proper system prosecuted

up altogether the practice of boarding around.  
 any inconveniences, and exposure to inclement  
 walks often, when they should have the quiet of  
 st, should be preparing to interest their scholars  
 ming day. The practice is also a great hin-  
 t of the best teachers, and consequently places  
 and the reach of those districts that continue its

ens, we would thank you in behalf of the cause  
 money during the last year. Your action has  
 ounty. Nor would we forget individuals who,  
 subscribed so freely for the support of our High  
 a proud feature in the rising fabric of our  
 t that other feature more easily secured, and of  
 pool, complete and thorough in the rich and prose-  
 is no excuse for delay. With this established,  
 ch proper effort in every district, and finally,  
 ch the munificence of individuals is now secur-  
 e may, indeed, hope that the foundation of the  
 ng, and with a superstructure secured, we may

EMING, CHAS. D. SMITH, A. W. GOODRICH.

## ANESBOROUGH.

some detail, and given commendation in par-  
 poor school that had no merit,) we venture, at  
 sure, to suggest one general idea respecting the  
 ough. Are our schools what they should be, or  
 or? Some disinterested persons tell us they  
 reservation will convince a stranger that they are

How then shall they be elevated, if it be  
 ?

at teachers shall be selected from a wider field,  
 to attainments, but especially as to capacity to  
 at a few years' rule by some of the best teachers  
 ould raise our schools to a higher level. We  
 s to the matter of incompetent teachers, in the  
 he Ban de la Roche, respecting Stouber, his  
 be shown the principal school-house, he was

conducted into a miserable cottage, where a number of crowded together without any occupation, and in so wild and that it was with some difficulty he could gain any reply to his the master.

"There he is," said one of them, as soon as silence could pointing to a withered old man who lay on a little bed in one apartment.

"Are you the schoolmaster, my good friend?" inquired S

"Yes, sir."

"And what do you teach the children?"

"Nothing, sir."

"Nothing! how is that?"

"Because," replied the old man with characteristic simplicity nothing myself."

"Why then, were you instituted schoolmaster?"

"Why, sir, I had been taking care of the Waldbach pig number of years, and when I got too old and infirm for that they sent me here to take care of the children."

It is an idea fatal to the elevation of our schools that tolerable education will do for a backward school of small chil

In such cases more depends on the teacher than the scholar is needed to elevate a poor school than to teach a good one. the skill which reaches the mind of the blind, deaf mute awaken dormant intelligence in an idiot,—let us also appreciate needed to bring poor and backward scholars up by the methods to high scholarship.

*School Committee.*—DANIEL DAY, HENRY PRATT, CHARLES NEWMAN

### LEE.

We cannot expect uniformity in our teachers any more other professional men. Generally speaking, the higher the greater will be the diversity of ability in those filling it. teacher ranks in importance next to that of the clergy, and combination of tact and talent that is more rarely found than supposed. The common impression seems to be that if a enough, he can teach. We might as well expect knowledge to requisite for a successful preacher. A warm heart, as well head, is needed both in teaching and preaching. Benevolence cheerfulness, dignity, integrity, patience, and above all, common ample scope for exercise in the school-room. The character of exerts a silent, but powerful influence over the school, and in of a teacher should be considered of vital importance. Child



as they sit upon their benches they study the  
No angry frown, no peevish word escapes their  
look up to their teacher as the source of all wis-  
dom, no one has so good an opportunity to instil  
principles of virtue, as well as the rudiments of  
learning themselves the children will imitate the habits  
of the teacher, so that his very look and gesture serve to  
show the danger therefore of over-estimating the impor-  
tance of the agents of the several districts is intrusted  
to the teachers, and to the town committee the duty of

selection mainly by their literary qualifications, the  
character and antecedents. Past success  
has been in selection. Inexperienced teachers must  
not be put in large and difficult districts. The  
young bird in the first trial of its wings, and we do  
not put it into a large city church. There is a certain confi-  
dence in experience, and a certain wisdom that only  
experience can pretend to know definitely the age when the  
teacher can safely be assumed, but we recommend caution on  
behalf of the inexperienced to commence with small  
schools. Our Normal Schools furnish good  
preparation and education and experience, and we strongly  
recommend teaching a profession to avail themselves  
of the which these schools afford.

to which we desire to call a passing notice.  
has been prosperous for the past few years, and the  
population has greatly increased, so that many of our youth  
are ignorant before the foundation even of an education is  
desired that parents and manufacturers should  
interfere themselves, without the interference of the strong  
genius of our republican institutions absolutely  
to be placed among the masses. Not a child should be  
educated, without such an amount of education as will  
entitle him to the right of suffrage, the performance of all  
the duties and of all the privileges incident to a free

DER P. BASSETT, ALEXANDER HYDE, JOHN BRANNING.

## LENOX.

which we consider of special importance, to which  
attention, before closing this report,—and that is,  
the establishment of a school of a higher grade than any we now have in

the town,—a school in which instruction can be given in geometry, natural philosophy, chemistry, botany, French languages, and such other branches, as may be required to strengthen the minds of the young of both sexes, and to enable them to perform intelligently and successfully the duties of life. We think that the interests of education, all the benefits that can be derived from it, demand a school of this description, to be open to all who may desire it, for entering any of the professions, or for any other word, that shall afford advantages for elementary education, not those of the best academies, and other like seminaries. We think that the interests of education, all the benefits that can be derived from it, demand a school of this description, to be open to all who may desire it, for entering any of the professions, or for any other word, that shall afford advantages for elementary education, not those of the best academies, and other like seminaries.

There is a statute requiring towns with a certain number of families to maintain such a school. Not having the specified number, we are not under any legal penalty for neglecting it; but on general principles, we think that if a school of this kind is needed by a town, it is equally needed by one with three times as many families, especially by those who are not able to send their children to school at home, but also by those who, while having a school at home, unwilling their children should lose the benefits of a school during the period when they are most important to their happiness, and to the formation of their character.

In this and many other respects, it is obviously better than the school as we now recommend. The question then is, whether it is practicable? In other words, is the town ready to support it? If so, there appears to be nothing in the way of establishing it.

And there are some special inducements for the establishment of such a school in like cases the expense of erecting a suitable building, and the cost of the academy, which would need only repairs to keep it in repair, at a cost, to be well adapted to the purpose.

There is also a fund under the control of the town, of about annually about one hundred and fifty dollars, which we think so that we could enter upon the work with the fund, and the amounting to at least three or four thousand dollars, would generally be incident to the establishing of such a school, reduced to that extent. Is the town prepared to make such a better investment of the sum that is now expended in the academy?

We think that five hundred dollars would be sufficient to establish a school such as has been briefly described. We think that if this is done, the benefits of it will be realized immediately, and will become more and more apparent as long as it is continued.

*School Committee.*—J. FIELD, S. S. JENNE, G. M. MATTHEWS.



## MONTEREY.

is the little attention given to reading, spelling and the most important branches of education. We have not received the attention their intrinsic value would by no means encourage the neglect of. We look upon these as the foundation upon which all other knowledge must be so inconsiderate as to erect an inefficient foundation. Neither should children be allowed to advance in scholarship without first obtaining a firm grasp of the great fundamental rules of education as the basis of all other knowledge. The method, which, if carried into effect, we think, will produce the most satisfactory results. Let a portion of the time be assigned to each member of the class, requiring words of like meaning, thereby adapting different words to the same sentiment. This would be advantageous in requiring a more extended knowledge of the definitions and a more correct knowledge of orthography, not only to communicate intelligibly, but to clothe the thought in clear and elegant language.

We will make the same suggestion that we have to make in regard to reading. That is, to have all the scholars read their lessons. Studying them they often mispronounce words; seldom notice their mistake, and when the teacher calls upon them to spell, gives it a different pronunciation, they are more likely to do it than if they had never seen it.

Another item is the definition of words. The scholar should be required to give the spelling and pronunciation of all the

words. The little attention given to writing. In some of our schools there is a want of systematic procedure in this respect. It should be devoted to it. Scholars should not be allowed to write whenever they choose, but there should be a regular exercise, so that the teacher may devote her time to this highly important study, which is a great benefit to the student. The position of the scholar and the teacher should be an object of special attention.

PITTSFIELD, NATHAN TAYLOR, C. E. HEATH.

## PITTSFIELD.

It is a fact that among our best teachers are the graduates of this school. Before this school was established, more than one-half of the wages to teachers, was to strangers. Now not

only our own, but many of the schools of neighbor by its pupils with popular and able teachers. Related to the school is, it is nevertheless a project evincing in the enlarged self-interest." Open to all, its members represent the condition in the community. Very many who are excluded from it would otherwise have been shut up to the teaching of the school and their acquisitions limited to the rudimentary. Here one may be fitted to enter college, to teach, or to enter a counting-room. The High School is a legal and a recognized institution and needs no advocate. A careful examination of the admission to this school, and a strict adherence to what is required as qualifications for admission, has reduced the number of pupils, elevating the tone and character of the studies taught, and has worked favorably on the Primary or District Schools. More progress has been found in these schools than for many years past. The members of the committee have uniformly found an undue haste on the part of the parents to get their children into the High School. This is the great defect, unless the High School is let down to the Common School level, it ceases to do, of necessity, just what it was designed to do.

*For the Committee.—O. S. Root.*

### STOCKBRIDGE.

The one great want of our schools, other things being equal, has been, and at the present time is, competent teachers. This is which perhaps all ears are familiar. A teacher of the school, especially, as another has well expressed it, should be a "man of a patent office," full of all manner of inventions. Of course, as much as they hate routine; and the idea that anybody can teach young children is one that ought to have been exploded. The most ruinous and disastrous; yet your committee are of the opinion that A—, or Mr. B—, are sufficiently qualified to teach in the school, but probably not some other. But this is a mistake to insist upon having the best teachers for young children. If the fountain is poisoned at the fountain, it will send forth pestilence. If there is no intellect too expanded, no virtue too pure, no knowledge too profound, no wisdom too exalted, which may not be exercised in our Primary Schools.

He who desires the office of a teacher, "desires the office of a teacher," when installed in office, he is found to lack the essential qualities which alone can insure success, he is certainly involved in many very bad things; which in his reflective moments, he must acknowledge.



state several institutions devoted exclusively to the high training of those who desire to become teachers; a small sum all can go, and become acquainted with the method of teaching that modern experience and

All who intend to follow teaching as a profession to teach only for a limited time, should avail themselves of the advantages which our Normal Schools furnish at so

little cost. Nature has given us minds to appreciate and enjoy the visible creation with the most beautiful objects, to which we are all equal. The beautiful which we all possess in a greater or less degree at a child during the most impressible period of his life, where there are absolutely no beautiful objects to impress the mind, is to deaden or completely destroy his natural taste. To deprive him of one of the highest and purest sources of pleasure is to deprive him of one of the most valuable. We must remember that early impressions are the most lasting. They grow with our growth and strengthen with our age. We must be sure that all the associations of our children are such as to cultivate all their faculties. In some parts of our State there are beautiful models of architectural beauty; located in the most desirable spots, can be selected, surrounded by pleasant walks, trees and flowers, the pride and ornament of the neighborhood in which they are located. The day is not far distant when these nurseries of beauty, in the town of Stockbridge, will also be our own. They will not, as at present, remind the passer-by of the ruins of the fort, or the extemporized defences of the days of the

Revolution, in relation to which your committee feel bound to make some observations; and that is the importance of having a place where our children can have all the educational advantages which it is the necessity of being sent from home to obtain them, without incurring any trifling expense.

Such an institution would be of incalculable value in the education of our youth among us, and would, perhaps, do more good than in the other schools, than any other course that they would enter it upon examination; and thus they would be enabled to engage, or for any of the active pursuits of life. We may be the nucleus of such an institution in Wilkes County. The funds of that institution amount annually to about twenty dollars, and may, perhaps, be brought up to two hundred dollars. An engagement can be made with the trustees of that institution to give a building and a very respectable fund to begin with. It is necessary for the town to raise from six to eight hundred

dollars, and to admit, if need be, a limited number who should pay for their tuition, while those from the town should be taught at the expense of the town. Your committee find a great need of such an institution among us; and though it may be by law to establish and maintain such a school, yet it is not by law whether it is decided to abolish the present district school. If established and once in successful operation, the people would scarcely be tempted to part with it for any consideration. I said that such an institution would be beyond the power of the town to support. We all desire, or should desire, to give our children the best education possible, for that is a possession substantial to them. In what way then can we accomplish it more economically to ourselves, than by having an institution where the tuition is paid by the combined contributions of the citizens; where we can have our children at home, and their parents can guard them from temptation and vice and give them their assistance when their school duties do not permit of their attention. It is true that the burdens imposed upon the town still press heavily upon us, but we cannot afford to neglect the education of our children.

There is surely no one among us so warm and so generous as to be engrossed with plans for self-aggrandizement, as to neglect the education of his children, or to consider the present necessities of his children, or to consider the future of his being and success. Even those who may have fallen into the hands of the oldest and most honored command, given through the ages, to rule a then unpeopled world, are yet endued, it is to be hoped, with a mind so liberal and expressive as to enter with earnestness into any plans which may have the effect of improving the condition of the town, but with the true greatness of the State, and the true greatness of government.

*School Committee.*—M. WARNER, N. H. EGGLESTON, GEO. H. EGGLESTON.

## WILLIAMSTOWN.

But there are other suggestions from these statistics of a different nature.

1. In several of the districts the number of scholars is exactly equal to the number in the district, but in some the attendance is only a little short of the whole number.
3. The amount of money appropriated for school purposes, before, averaging \$4.44 per scholar, it being only a little more than the report.



ish a High School is another encouraging sign of

strict system is a further step onward, one which  
needful to the most efficient and successful working  
system.

B. WATERMAN, N. H. GRIFFIN, GEORGE F. MILLS.

## WINDSOR.

ask, how it can be expected that scholars will  
in their studies if permitted to absent themselves  
e, from constant attendance. The blame for tardi-  
is seldom attributable to the teachers, but chiefly  
others who have the welfare of the children in  
ts would take the same view in regard to the edu-  
that they do in their pecuniary affairs, we should  
ner keeping his boys at home to do chores, that  
quarter by chopping wood, or the mother keeping  
of school making preparations for a party. The  
eed-sowing should stop his men and teams two or  
d thereby leaving half his land uncultivated, with  
crop, would act just as consistent with good judg-  
as the man that keeps his children away from  
e, with the expectation that they will advance in  
is neighbor's children that attend school punctually

PIERCE, H. D. CAPEN, SAMUEL DAWES.

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## FOLK COUNTY.

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### BELLINGHAM.

govern in our teachers, has been the cause of most  
encies in our schools for the last twenty years. Not  
a marked difference in the progress of the schools  
been equally good. This arises from a difference  
achers to awaken emulation and incite enthusiasm  
prompt in their attendance and perfect in their

But the "no-government" theory is an absolute absurdity. If you visit two schools—one under wholesome discipline, and the other where no discipline prevails—and he will discover a wide difference in the whole aspect of the school. You can imagine—if you will not take the trouble of visiting the schools—that in a school where discipline prevails, thirty or forty scholars collected in the school-room, sitting at their desks, and at work, and fun, with no restraining influence to guide and direct the school, and another school where discipline prevails. Could you, unobserved, look in upon these schools, you would see nothing but sport, fun and play; whilst in the other school you would see the teacher moving about calmly and quietly, and the scholars, all deeply absorbed in study.

*School Committee.*—JOSEPH T. MASEY, GEORGE NELSON.

### BROOKLINE.

Our Public Schools are the glory of New England. Six years since, in a parlor in Manchester, England, in company with a gentleman of that city, the conversation naturally turned on the difference between that country and this. We remarked on much which we thought to approve and admire in England, but added that they wanted free schools, throwing their doors open and offering their advantages to all children of the poorest equally as to those of the wealthiest. He described one of our High Schools, taking that of Brookline as a model, giving the course of study, embracing as it does, besides the usual branches, algebra and geometry, French and Latin, natural history, and history, rhetoric and composition; music and drawing, and that all these were offered free of cost to the child of the humblest parent in the community. He seemed surprised for a moment, but then said, "We do not want such facilities of universal education. The object of education is, to give to each class the education suited to their calling. It is to be in every society hewers of wood and drawers of water. If you speak of would make the laboring classes discontented. They have no need of it, and it would do them injury."

But we do want American children to have just this education. When they come to the position and responsibilities of citizenship in this country they will have need of it. With universal suffrage, we must have universal intelligence. The man who is to influence by his ballot on the most vital questions of State and National government must have an education that will fit him to examine these questions, and to decide for himself. Millions of uneducated voters, or of those who can barely spell out an English sentence, or write their own names, are a dangerous element in our population. The government, if it is to be democratic, would in fact be but the worst oligarchy. The pu



ent, therefore, depend, in a larger measure than we see Schools. These underlie the whole, as does the stately edifice.

any one can teach a child his alphabet and his first spelling. There is no position where tact, patience, of resources, in fine, all the qualifications of skilful ed than in the Primary School. The committee to fill the occurring vacancies in these schools from een educated in our own schools. Other things certainly the first claim. But a stronger claim is make for the best teachers, whether from abroad; or We would respectfully suggest to young ladies, who, ouse in our Public Schools, are desirous of teach- they spend at least one year in some one of our Schools, thus adding to their other acquirements, a teaching.

LIAM LAMSON.

### BRAINTREE.

l discipline of a school make greater demands on the instructor than the mere teaching. The number cient knowledge to conduct a recitation is large, an wisely govern and discipline is small. The he school-room, and in the general conduct of the often to be attributed to the weakness and incapacity the perverseness and insubordination of the scholars. We had a demonstration of this in the appearance of ge of a first-class teacher and disciplinarian, and the aged aspect, when an inferior teacher is placed at its retted, that the principles of school government are od. The control of a school is not always the governor is constraint; the latter, discipline and education.

AN TORREY.

### CANTON.

One of the greatest impediments in the attainment of irregular attendance of the pupils; this is not the of your committee. If it were truant-playing alone of attendance, it might be overcome in some manner. e parent, who, when he ought to enforce attendance,

often allows the child to follow his own inclination ; or even detains him at home all day for the performance of some trifling duty which, with forethought, might have been done either before or after school. Parents should remember that the improvement of their children, the acquisition of useful knowledge, is of far greater value than the indulgence in amusement, or the slight assistance they can derive from the school in detaining them from school. They should remember that education is better than money, and that the price of wisdom is above rubies. A man wears out his life as a hewer of wood or drawer of water. A boy whom his parents sent him to school when a boy, might have attained the highest post of usefulness and honor. Parents have, therefore, an important duty to perform in securing the attendance of their children. But it is not to this individual child that the injustice is committed, but his school. In seeing one of their number allowed, day after day, to remain at home from school, spending his time in play, while they are confined within the walls of the school-room, soon become restless and uneasy, and, to use the expression much in vogue at present, "demoralized." It has been the opinion of your committee, and the united testimony of the teachers, that the greatest obstacle in the way of advancing our schools is this irregular attendance. To what better place than the school-room can we send our children to acquire habits of punctuality, application and obedience? A child accustomed to habits of punctuality, who is habitually late at school, when a man, be always missing his appointments. If he is not taught to apply himself to his books while at school, how can he be expected to apply himself to anything when he becomes a man? the restless Satan will be spurring him on to deeds of mischief and wickedness. If he will not obey the laws of the school, what guarantee have we that he will obey the laws of his country? "Just as the twig is bent the tree's inclined."

In our Primary Schools there are quite a number of children under five years of age. We do not labor under the impression that these children should be created and sustained for nurseries, where children of a tender age are kept from the streets, or to save care and trouble at home. Perhaps more schools are needed. If the necessity exists, let us establish them, and not protest against combining the two.

The subject of creating a High School has engaged the earnest attention of your committee. There are many disadvantages under which it is in a town so sparsely settled as ours, in the formation of a High School. But it seems to your committee that the benefits to be derived from a High School more than counterbalance the obstacles to be overcome.

For a number of years past many scholars have been out of town attending Private Schools in town, for the purpose of obtaining instruction in the very branches required by law to be taught in our own town.



in our Grammar Schools, and some even in our perfectly well qualified to pass the examination before gaining admission into such High School. Grammar and Mixed Schools be classified, thereby unite proficiency together, so that a large number at the same time, a great advantage would be obtained. To hear a class of ten, or even twenty, recite a lesson, one recite alone; and companionship has a salutary influence which operates with peculiar force upon the minds of children. Not only does it stimulate ambition among the scholars, but it makes the task much easier for the teacher. In our present system it is impossible for the teacher to hear a pupil read every day, and in the winter the teacher takes the time to hear the best children recite their a-b-c's. We hear much about a "true division of labor." Why not apply it? Let each teacher be required to perform the exact duty assigned to him without interfering with that of the other. The Grammar School, the High School has each its own proper sphere. But not only is it a saving of time, but it is a saving of money also; and in these times, an important consideration, it behooves us to be as economical as possible, and obtain as an equivalent the best results. The less advanced, who can as well be kept at home, are not carried forward to the more expensive instruction. They are prepared to be correspondingly benefited. The district schools do not furnish all the instruction the complete school requires; some are sent abroad. Nearly every town has its representative in schools out of town. Knowledge can just as well be acquired here, and Canton can furnish as good a science as any of the neighboring towns. And it is not only those who desire an education, but who are unable to acquire it, who need an "Institute," that the means of acquiring it be placed within their reach.

We feel it our duty to renew the recommendation that the district system be speedily abolished. If you think the interests of your schools demand that at least you have a committee to choose the teachers. While your power, which is not to be used either by the State or a school committee, except under the strictest sense of duty, just so long the prosperity of the district system is a matter of chance.

HUNTSBORO.

## COHASSET.

Every teacher in the town has labored diligently to advance the children in learning, and has secured as far as the committee have been able to judge. the female teachers, especially, with their small salaries, earned, the compensation which they have received for so much service rendered for so small a town. And this our female teachers can do for they, for the most part, have received their education at the expense of the town, and learn to teach in the schools. Then our school system is so arranged as to be made comparatively easy to be governed, especially. Besides, the plan of continuing the same schools, and the same teachers is favorable to ease of governing. Perhaps this has helped the progress of our schools in one thing. Those schools which were in the habit of changing teachers once or twice every year, continued to be in the same as they pursued that course. Since they have continued the same teachers, for a considerable length of time, the progress has been especially manifest in the Junior High Schools. Those schools were, for many years, the best in town. Since they have ceased to change teachers, they have greatly advanced, and now rank well with the best. The school in the Beechwoods has made especially good progress before stood as well as it has done the past year.

But while this system of continuing our schools under the same teachers is, upon the whole, the best, it has contributed very much to their success and in overcoming its difficulties and dangers. If the teachers have an interest in their work, if they are constantly striving for an ideal of excellence, if they seek to improve their own culture, and especially, if they try to learn improvement and to keep themselves up to the constant progress of going on, they will preserve their freshness of mind, they will become happier, and more successful as teachers. They can hardly conceive of the excellence, as a teacher, which she may attain, and the power she may reach of securing and gaining the affections of her pupils, and of exciting interest in their minds, who has them from year to year. She can continually to enlarge her own knowledge, to comprehend the nature of her work, to enter into closer sympathy with the children committed to her charge, and help them in every



antages there is danger of continuous teaching. The practice of going over the same books and year, is apt to destroy their freshness and interest, and thus make her incapable of interesting. They are apt to get into a kind of a rut, from which it is hard to keep on in a mill-horse round, hearing less of having any very strong or clear conception of the principles of communicating clear ideas to their pupils. In a certain way, they are apt to think that there is no other way, and therefore are averse to adopting any other method that may interest their pupils, or help them to learn to be interested, need novelty and variety. At the same time, those who are willing to try improved processes of teaching are themselves of the new light which is being thrown

Teachers confining themselves to the teaching of the text-books, and being satisfied if the daily lessons are read and recited well. This may become very dull and burdensome to teacher and pupil. The school-books, and the want of resources in true teaching, and those who rely on the text-book, often, in the best way. One reason why our schools make so little progress is, that the pupils are required to commit and recite lessons with but little interest on the part of the teachers.

As to the part of arithmetic which treats of fractions, and arithmetics from their pupils, send them to the text-book. If the text-book in hand give them oral lessons only, they will learn more pleasantly, more rapidly, and more effectively by their present method; and so with regard to algebra. The introduction of Walton's Table into the schools is much in this direction. This table consists merely of a table of numbers, with very little help from the teacher, the table of numbers, addition, subtraction, multiplication, and division. These fundamental operations are usually taught by the text-book. They have been instructed to use these tables faithfully in the Primary.

A committee examined a class in grammar, in one of the schools. One of the scholars had been studying the book for some time, and had learned to have no real knowledge of the principles of grammar. He could recite the words of the book imperfectly, and could not explain the meaning of the words. The teacher, who was just taking charge of the winter term, threw aside the text-book entirely, and relied on his own method. He did so, and the progress of that class,

which never afterwards learned lessons from the grammar, than ordinarily, and they became more familiar with the English grammar than almost any class of pupils of their age.

Last spring the committee removed all the English grammar from the three central Grammar Schools, if these schools can be Grammar Schools when the grammar is excluded from them. They did so because they were convinced that the study of grammar, as pursued in these schools, had been of little real benefit to the pupils. They could take it up with more advantage as a fresh study in the next year. The committee, however, desired the teachers to give all the attention in grammar that they might feel inclined to give. They desired, also, to give regular oral lessons, correct the violations of grammar in the language of their pupils, and require oral exercises in composition, in the correcting of which they might be assisted by spelling and syntax.

*School Committee.*—JOSEPH OSGOOD, GEORGE BEAL, JR., EDWARD DEDHAM.

#### DEDHAM.

We renew our appeal in behalf of good reading, as a distinctly worthy object at which our teachers should aim. In this branch of ancient repute may appear very trite, yet very great. Other recruits out of the commonwealth of babblers are not so easily levied. Let us have more good reading, distinct in enunciation and full in tone, somewhat appreciative of the matter in hand, and loud. The old and almost universal injunction to the scholars in the Public Schools was, "Louder,—a little louder, if you please." Let us have a good work in which our teachers might engage, to help in the understanding of the relations between his voice and the words he speaks—to graduate expression, so that the enunciation might be perfectly distinct: not a painfully elusive, unknown quantity, nor harsh and hand, nor unpleasantly shrill—a sort of human life—on the part of the comparatively few pupils are sufficiently instructed "to measure the force and to adapt the movement to the natural capacity of the voice." The result is painful both to reader and hearer. It needs to be remembered, that good expression does not depend upon the amount of force forced through the throat, for this would make the steam of the locomotive at high pressure of better quality than the tone of the voice upon the manner in which the breath is used, whether vented into pure, articulate expressions, or sharpened like a whistle. It is said on good authority, that a whisper from a well-trained person can be heard in the largest room. What is wanted in the exercise of reading, is not the tone of an invalid, feeble, vacillating, desultory voice.



of juvenile effort, as if some future shipmaster  
emergencies of the rough gales that sweep around  
liability with the matter, an understanding of the  
et and distinct expression; *i. e.*, so clear and full  
can be easily distinguished from every other.

MIN H. BAILEY, M. M. COLBURN, ALFRED HEWINS, OLIVER  
IN S. LOCKE.

## DORCHESTER.

mination, the committee have been impressed with  
the mode of instruction pursued in many of our  
practice of giving information upon every subject  
than the text-book. The change thus witnessed  
g feature in the progress of the year that is past,  
f special comment in the several reports of those  
amination in charge. The committee hope that  
ill greater progress in this direction. The prac-  
rly pursued, must prove a source of profit and of  
well as to the scholar. It not only lends a charm  
eacher, but enables him with greater success to  
us to impart instruction as he cannot otherwise  
l reading upon all subjects referred to in the text-  
the character and calling of our public teachers,  
of teaching a truly learned profession.

UDDER.

## FRANKLIN.

g and muscular exercises introduced and practised

ntly asked, of what practical importance are these  
on, they have an important bearing in several  
e conducive to health; and whatever tends to  
vigor and elasticity to the limbs, to quicken the  
culated to prepare the mind for greater and more  
e not all know that our ability or inability in  
s very much upon the health of the body? Have  
muddled brain, we may persevere in our efforts,  
ur progress. Secondly, they assist the teacher in  
is said that idleness is the parent of vice. In  
ore plainly demonstrated than in the school-room.  
ut of business assigned it by the teacher, it will

have business of its own, which is very apt to neglect intellectual and moral culture. Neither his physical demands or will allow him to sit upright with one hour and a half four times in a day. It is a burden. No kind and considerate teacher will intersperse the studies and tasks of each quarter with song and appropriate exercises, it will afford ample rest to the strained nerve, occupy the time which might otherwise be uselessly employed, besides adding new vigor to the mind. Lastly, we believe they add much to the moral culture of the school, and certainly very much to its external appearance. To see a teacher and scholars uniting heart and soul in song, is far more pleasant to witness than to see a teacher and scholars off dull apathy; but far more pleasant to witness than to see a teacher and scholars substituting the exercise and song for the rod and the whip. We would not be understood as excluding the rod entirely, but that we prefer the teacher who has the power to end in that way that out of amusement, heartiness, and song can produce a higher grade of order than can be produced by the birchen twig. If the teacher has a scholar that needs the reach and reform, then it is her bounden duty to reach him. She is obliged to resort to the use of the rod. If the school is the nursery of crime, and ought not to be a school of evil tendency and omission to teach one of the duties laid down in the statutes of the Commonwealth, it is the duty to teach good behavior.

*School Committee.*—S. W. SQUIRE, SEWALL FISHER,

#### MEDFIELD.

So, also, should particular requirements of the school be sustained by public sentiment, and gracefully sustained by scholars and by their parents. Surely, it may be said that in selecting and employing teachers, your motives are pure; will cautiously inquire into the character of the teacher employed, and his or her adaptedness to the duties of the school belongs, also, to the superintending committee to inquire into the moral qualifications of the teacher; and it is but natural that we are not indifferent to the interests of the schools. Only the welfare of the training and education, in the best sense of the word, is desired, in the employment of any teacher. And it is the duty of parents, and of the whole community, to give

especially when, after the examination of them  
tion of their method of teaching, and mode of  
ined by the committee.

ship is necessarily clothed with supreme authority,  
el and successful prosecution of the voyage. A  
e sole direction of affairs upon the battle-field, or  
as and successful campaign. The requirements  
s of public institutions must be implicitly complied  
order and prosperity of their charge. Heads of  
y human and divine laws, with similar authority,  
lemn responsibility.

e of a teacher, having in charge the most important  
e, control, instruct and elevate many children, of  
temperaments and dispositions, and to effect in  
e best possible result—why should not that teach-  
the school-room and around the school premises  
ined? Teachers may, and indeed do, sometimes

But whenever error on their part is discovered,  
nds of parents, through the committee, to relieve  
ontinued effect.

f the first requirement of a teacher which opposes  
self-indulgence, or demands the close application of  
as unreasonable, not only by the child, but, also,  
ent. Harmony between the parties concerned, the  
he success of the teacher's best endeavors, are then  
yed. Even the self-sacrifice and personal incon-  
or the benefit of a refractory or negligent scholar,  
fall behind his class, may, in some instances, it is  
erfered with. If a child be kept after school for  
a task he has neglected,—which the teacher has  
re,—he may, it is supposed, be summoned home  
gorous measure be adopted to quicken the industry  
to stimulate the flagging ambition of a capable  
mpulses or to quiet a nervous restlessness, and  
ome, immediately the authority of the teacher is  
spect are changed, and future connection between  
ot sundered, is rendered unpleasant and compara-

ent occasion to observe such a state of things and  
consequences, that we feel compelled to ask that  
are employed, they may be allowed to carry out  
ching and modes of discipline, subject only to the  
of the committee. You intrust the management

of the schools and the public educational interests of your committee. Confide in the exercise of their best judgment and integrity of their motives. In the social compact you subscribe your opinions and wishes to the constituted authorities of the school. Here are means provided for redress when you are wronged, and opportunities for change when existing authorities are unworthy of confidence. But so long as they do nothing to forfeit your confidence and much to minister to your social and personal welfare, sustain them. Do no less in your implied if not expressed contract with teachers of your schools and with your school committee. Use the means of redress and like opportunities for change in your own case as in other. But, while the compact does exist, refrain from complaining when you are plainly wronged yourself, by wrong to your children. Do not a hasty expression of your feelings or purposes occur, but in the order and discipline of the school, but seek at once a proper investigation of the matter through the proper channels, and a satisfactory way.

Imagine that a contract had been made between a building committee of a school district for the erection of a building upon a certain plan, with definite specifications, and to be completed at a specified time. By what right would individual citizens assume to alter this plan, or to interrupt and delay the progress of the work by requiring deference to their particular opinions or wishes, without principles of architecture, not accustomed to the drawings and specifications for public buildings, not having had any previous employment of builders, how annoying to a busy workman, and the continual interposition by individuals of their own opinions, most proper or most desirable to be done! And if the wishes of the individual are to be yielded to, and the wishes of each to be satisfied, what will be the result of the supposed contract?

Now a contract is made between the legally constituted authorities of a school district and a teacher. Not, indeed, with exact specifications, but are not to be varied from, but with the general understanding that on her part, is bound to perform the duty of a competent and efficient teacher, and that they, on their part, are bound to sustain her in the discharge of her known duty, and to compensate her labors when contracted for. This contract, made by their agents, all citizens of the district are bound to assent to, and expected to fulfil.

Yet it seems to be regarded by some as perfectly justifiable for parents of superior wisdom or parental affection—to interrupt, and to interfere with a teacher by continual expression of their individual judgment, when it is proper and desirable in the instruction and discipline of the school, or by the frequent charge that this thing is done



children disapprove and dislike, and that that thing is  
 and their children approve of and desire; or by  
 on that a teacher has no special authority which  
 no personal rights to be respected; no sensibilities  
 unless all are accordant with the parents' opinions,  
 ents' feelings. And with such notions and practices  
 how little confidence in their teacher can children  
 or at best how irksome, the teacher's faithful  
 the work she is bound to perform!

must surrender personal opinions and wishes to the  
 ce of the teacher and the school committee, if they  
 en derive most benefit from the opportunity and  
 on. They must be willing that the agents whom  
 by their own voluntary act should occupy their  
 purpose specified. They must, in every way, seek  
 with confidence and respect towards those agents.  
 ruction of our schools was more largely oral, and  
 text-books, especially with the younger classes,—  
 more useful, more readily understood, and more  
 l. And if future examinations of the higher classes  
 be conducted—so far as recitations are concerned  
 and without text-books, they would be far more  
 y.

penmanship—does not seem to have its due meas-  
 schools. What is done in relation to it, far excels  
 ng common many years ago, and in some instances,  
 n the formation of letters and words, and perfect  
 ot, as it might and ought to be, universal. There  
 e in early life of greater general value than those  
 rect spelling, good writing, and the habit of quick  
 al calculation. These attainments are always useful  
 used, whatever may be one's occupation; and to  
 nd correctness in them is of primary importance.

S. C. SEWALL.

## NEEDHAM.

ls are quite as difficult to be found as any. The  
 scholars need as able and as apt teachers as the

acement, the child should be taught correctly, not  
 also in his every-day conduct and behavior. The  
 here, upon which the whole superstructure is to

stand, the teaching and discipline should, if possible, be in order. Nothing should be learned here that should not be in a well-finished education. Successful teaching requires great skill and perseverance. Hence, the progress should be as frequent as in any, and perhaps more so; for in this department being usually small and more easily governed, success should be commenced. The class in the alphabet needs as much attention as in arithmetic or grammar.

A decided upward step has been taken in regard to the progress of our schools. Shorter lessons have been given, and more labor has been devoted to them than formerly. Still, in other schools, there is ample room for improvement. Lessons are too long or too difficult, and too little is given to them. We want to see all our schools well taught in spelling. The dull scholars must not be overlooked, but encouraged and stimulated to become good readers. Good readers are the basis of all science and learning, and its attainment should be the aim of the teacher and scholar.

*School Committee.*—NATHAN LONGFELLOW, JONATHAN

## QUINCY.

*The Primary Schools.*—This board has repeatedly emphasized the importance of the Primary Schools. We have seen the success of the pupils in the upper departments depend in a great degree upon the kind and amount of instruction, and the progress which they receive in the beginning. If they are not eager for knowledge when first taught, it will be difficult to excite that laudable desire at a later period. And let it be remembered that by knowledge, not knowledge of books merely, but knowledge of principles.

It has been the earnest endeavor of the committee for the past year, but for several years, to break up the old system of learning, and to substitute more rational and useful methods. We have furnished, and are still furnishing maps, globes, and faces of blackboard. We have insisted upon every scholar to use a slate. We have endeavored to impress upon the minds of every kind of object-teaching. We have expected or wish the little pupils of a Primary School to be occupied the whole session, and have enjoined frequent intervals of rest. And while perfectly well aware that habits of order and industry can hardly be inculcated at too early an age, we have but have always taught, the inadvisability—shall

little child of five, six or seven years, the same application that we expect from older pupils; and as our fixed conviction, that not the least important teacher's work is the awakening of the child's the enkindling and encouraging in him of the

is too prevalent a custom to lay out for the little liked, but, almost of set purpose, work that he disinted in the beginning, that the school-room was of place, and all school tasks necessarily disagreeable acting upon such a conception, to make the place teful as possible. Against such a method, a few er among us, we have made unceasing protest.

ELLS.

## ROXBURY.

matter of making better provision for the education was commended to the board by a communication subject was carefully considered, and the result the Truant School at the almshouse, under the s of the poor. This school, taught by one of our highly approved Grammar School teachers, proves the precise ends for which it was instituted.

our Public Schools to good order, to temperance, —nay, to religion itself,—is becoming, each year, The lessons of the last four fearful and yet most an history, will form the study of coming generations largely to mould the future of our character and it is the business of education to impress on the school-house is hence the nation's nursery. It is

the twig is bent the tree's inclined."

ad enclosures that, as the future opens on us, e to spring up and grow "trees of righteousness, that he may be glorified." No country had ever radiant future than these now United States of s of material wealth, its mines, its soil, its "rivers haustless. What it needs, to the unfolding of all ture, is the right training and direction of its vast is here the largest blending of the intellect of the he native and foreign. But it is substantially one great destiny. To mould and fashion that des-



tiny to forms of beneficence and goodness, is chiefly the business of a far-branching system of general public education. The work is done at an age that makes it essentially formative. It ought ever to be executed on the broadest scale of moral and Christian culture, as a scientific appliance. The work of teachers, and the work of the pupils, of education alike, are lifted by such considerations as these to a high and far-reaching magnitude. To rise to the level of the greatness hereby imposed, lies among the highest of human aims and capacities.

*Chairman of the Board.*—JOHN W. OLMSTEAD.

*High and Grammar Schools.*—The testimony of all experience is that they are best fitted for any post who have been trained for it. The best mechanic is one who has learned his trade. The best teacher is one who has been trained especially for it. The time at which they graduate at our High School, is not that age when they should be entrusted with the weighty responsibility of the moral, physical and intellectual culture of fifty children. However competent they may be in their attainments in scholarship, they have learned nothing in regard to the method of imparting knowledge, or of the best means of maintaining good order and discipline. The experience of the present year has shown that a departure from this custom, and the appointment of one of the Normal Schools, has been attended with eminent success.

*For the Committee.*—GEORGE M. HOBBS.

*Primary Schools.*—None of our schools demand so much of the teacher as the Primaries. The responsibilities resting upon these schools are Judgment, care and patience,—the invention of means to keep children interested in some exercise that shall be useful to them, tact to excite and rightly direct early thought,—all are required.

They commence with the alphabet; they give the child its first lessons, they plant the seeds of its intellectual life. To be a wise and successful teacher, is a very high and efficient attainment. The success of a school depends mainly upon the qualifications of the teacher who has charge of it. Not literary qualifications merely are necessary, but interest in the work, the ability to govern, and secure the happiness of the school,—these are of the highest importance, and, for the want of them, nearly all our failures occur.

*Chairman.*—IRA ALLEN.

## SHARON.

The present district system is held with great tenacity. Very few have any desire to change. At the recent town election the citizens were asked to entertain but one opinion. As this is to be continued for several

exercised in the choice of prudential committee in the  
t men who are wide awake to the importance of  
ill aim to secure teachers of the first quality.  
ot remunerative in dollars and cents perhaps, yet  
ested by our schools. We have noticed with pleas-  
s of late been manifested. The caré which many  
r several successive terms the services of able and  
worthy of praise, and in this, one of the greatest  
t system is removed. We hope that changes in  
, where they are found to be workmen worthy of

important! To lay the moulding hand upon the  
Who can enter upon this work, and not exclaim,  
these things?" Who would ever think of teaching  
if awake to the importance of the stern duties he  
teaching a mere routine? It should not be. Does  
a treadmill? It cannot be. Is it all his duty to  
school-room each day, and think his work accom-  
e to become a dwarf, with intellect less stored with  
ess capacious, with heart less sympathetic, with pur-  
; the glorious work of teaching was never made for  
with what devotion, with what enthusiasm does  
ar to his work. He never grovels nor creeps in  
a bold flight and lofty wing to the elevated and  
vets.

ent than that the teacher should have a character  
rt, as he uses its moulding influence to form the  
He may be all this, and satisfy the demand of the  
re is a great work to be done by the parent in help-  
ork. Reader, do you have any beneath your roof,  
upon whom the teacher is placing the moulding  
; second every worthy effort of the anxious teacher.  
are in sympathy with him, and that he labors not  
peful word fall from your lips upon the ear of those  
ccent. Wait not until the term closes before you  
at during the term encourage the teacher by your  
et the teacher know that your heart is in sympathy  
ceives your co-operation; and great advantages



## STOUGHTON.

The cause of education in Stoughton, I rejoice in stating impetus in the right direction, by the action of the town, in 1865, in appropriating money for High School purposes, which I believe will continue to be felt in the future. The friends of learning has always been, that a school of high grade especially upon all schools of a lower grade. This theory has been by the results realized here in one short year. I am sure the measure could have been adopted so well calculated to elevate generally, and to develop an earnestness in study upon the youth, as the establishment of the High School.

Indeed, the history of education in all ages has demonstrated that a higher grade of scholastic institutions has always quickened the usefulness of the lower. The dim twilight fades into darkness as the sun gives life and attracts. The lower the grade of nothing is above it, the greater is the danger of an eclipse of light. The High School nourishes and attracts to its sphere the schools of all the intermediate institutions. With the High School I see dawns upon us a brighter and more hopeful future.

With the founding of good schools, however, and the generous support, the labors of those interested in education and the town by no means end. Education is a power for usefulness always. But to gain the highest good, and subserve the general good, it is essential to watch over and guard the interests of the young, care for them with the utmost assiduity, and to labor unceasingly for their perfection. There is at present the need of improvement in all directions. This need will exist, undoubtedly, in greater or less degree for years to come. To lift up the people generally, then, to secure to be gained from education is a duty incumbent upon us. In education no community can occupy an exalted position. To receive the blessing of the Almighty, it is not only elevated, but it must be in all directions. It should be the aim to secure the very best. This, of course, can only be accomplished with time and money and by adequate compensation. The best workmen cannot be had without a right to demand the highest prices. It is not only the teachers. If the town cannot compensate good teachers, it must have poor ones, for our good teachers will depart from us. In the schools will languish and the cause of education will suffer. It should be the aim to supply first class school-houses, thoroughly and well furnished, and provided with all the necessary books, maps, &c. Without these adjuncts, or with them imperfectly supplied, the town cannot make the most of the invaluable educational privileges afforded.

of consideration, whether we should not begin to only as simply a means to an end, but as an end in itself a means to very important ends—all the ends of a successful business life. But education for its own sake. It not only adorns the mind, and elevates the soul and prepares for usefulness, but it quickens the soul in a perception of its inherent glory, and lifts up a purer and clearer apprehension of God. There are, other things being equal, among the noblest of them, therefore, be content with the mere rudiments of learning, simply enable us to answer the lowest possible demand to compass all learning within our reach, and all be thus expanded, and all our powers enlarged.

JOHN CHAMBER.

# WALPOLE.

one of the committee, or some other suitable person to be appointed by them as superintendent of the schools. It should exercise a general and special oversight of every branch of instruction and discipline. He should frequently become acquainted with the character of the teachers, the fitness of books used, and correct errors and defects with an authority that can come only from knowledge. He should hold meetings of the teachers, and advise them in the methods of instruction and management, and see that the regulations of this board in regard to the schools be carried into effect. It should also be a part of his business to visit the schools, the condition of the school buildings; to be called upon whenever there is need, and to notify the trustees of the buildings and their appurtenances.

Well done, though the expense were three times as much as now paid to the committee, the town would be a great deal better off. We know how a divided responsibility is felt, or how a competent person, feeling himself answerable for the schools and being suitably paid for his labor, can do more for the welfare of the children than can be done under the present system. The schools would be visited oftener than they are now, and devote only a very limited time to this work, and the details of instruction and discipline must needs be improved. Towns that have adopted this measure have had no objection to it; on the contrary, they uniformly commend its



We believe that the Primaries may and will be improved with regard to the education of the perceptive faculties—sight, hearing, &c.—and the education of the judgment in respect to what they see and hear. Of course we do not advise a neglect of reading, spelling, drawing; but in addition to these, young children should be taught to notice attentively what they see; to observe the differences between objects; to compare their forms, sizes, weights, colors and other qualities; to know something of the world they live in, what it is and what they are so far as they are concerned. They should be so taught not only for the value of the information acquired, or for the pleasure which they derive from experience in its acquisition, but also for the habit thus formed of constant and continued attention, a habit of inestimable importance in all the pursuits of life. Something of this kind is done by every good teacher in our Primary Schools. More might be done and will be when its value is recognized by the people.

The correct use of the English language is a most desirable object, and is worth a long and patient practice, even if it should shorten the time devoted to other studies. For example, in the small practical value of difficult arithmetical processes, and the mass of men, might we not profitably adopt a shorter and simpler method of instruction on this subject? Our large arithmetics contain much that might be useful to a professor of mathematics, but a smaller one would suffice for the wants of men engaged in the common pursuits of life. May it not be because we undertake to teach too much and too imperfectly, that after all the study of arithmetic in school, men are unable to construct their own rules, and from their experience learn to do so with despatch? Long ago, an eminent educator said, "I have no objection to teach too much mathematics." Our children begin at five, and continue the study of arithmetic and kindred subjects till sixteen. Might not some of this time be better spent in acquiring a ready control of the English language? All men have occasion to express their thoughts in this country, perhaps, more than elsewhere, the power of doing so with a vigorous expression is indispensable.

As the direct study of grammar is the only publicly recognized method of acquiring the desired accuracy of utterance, we have frequently examined the grammars in use, with a desire to find the best. From time to time, we have recommended certain changes. If we have not the best, we can only say that we are heartily sorry, although we are not in the assertion that "the grammars may be said to be steadily improving. They contain every year more and more unnecessary matter, which serves only to confuse and stupify the young brain." It must be remembered, however, that in our Common Schools, the study has not been so successful as such results as we had anticipated. Undoubtedly, something

expense of time and labor. The technicalities are and facility of speech and writing, are not secured. scholars learn and understand grammar well, as and anything they attempt. Then there are those intelligent people. They learn good language as ers, or as they form a taste for literary pursuits, school with very limited ideas of the philosophy of of the grammar awaken or suggest no corresponding od teacher be of more use to a scholar than any ially to a young scholar who can appreciate things, , and by simple and judicious training may be led ations. At his age, the reasoning powers are not with the accuracy and fidelity of his memory, and repeat the words of the book without mistake, and mpse of their meaning. Little is learned by the usually conducted. But if the teacher had time board from the dictation of the scholars, and they tions of names of familiar objects and of words t to combine these into sentences, and to repeat rms, until the relations of words to each other and ere thoroughly comprehended, adding from time to rds as would naturally suggest themselves, some age might be gained and a foundation laid for its exercises in writing are indispensable to success. useless. Nor is "composition" so formidable as , provided that they write of what they know and hey have seen; of places they have visited; of

The general difficulty is, that they undertake to out ideas.

ject to our teachers. No doubt any considerable struction is difficult; but intelligent teachers, sus- ested in their children's progress, may bring about and really contribute something towards a knowl- nd facility and correctness in its use.

N M. MERRICK.

## WEST ROXBURY.

of the head of a large Grammar School are not nstance of its pupils being girls, and its teacher a s neither justice or propriety in fixing as the salary s than half that paid, where the pupils are boys,



We do not propose to discuss what is called the "woman question," to advocate what we conceive to be, in the present state of things, an untenable proposition that labor should be paid with no regard to age, sex, or condition of the person performing it. Only to say that we owe it to ourselves as men, as fathers, husbands and laborers, to accept, year after year, a thousand dollars' worth of work for no more than fifty dollars, simply because the laborer is a woman.

There is a current feeling, prevalent not alone here, but almost everywhere, that the position of a primary teacher is one of less importance than that of an assistant in a Grammar School. Considering the amount of labor performed, the importance of the service rendered, and the high grade of mental and moral qualities requisite to it, it is not any criterion of the just dignity of any branch of the service. No reflecting person will presume to look with disdain upon the position of a primary teacher.

Nevertheless, it is idle to urge these and other considerations, unless we practically refute them by fixing the compensation of the primary teacher at one grade lower than that of the Grammar School assistant. The consistency we desire to reform, and, at the same time, testify to the importance of the primary department, and our determination to place that branch of the service the best available ability, by raising the position of the primary teachers to an equality with those of teachers in the other divisions of the Grammar School. At the conclusion of this year's estimates for the next year, we shall ask for an appropriation to cover this advance, and we feel convinced, that the good sense of the community will induce a cordial response to our appeal.

*School Committee.*—JAS. P. WALKER, D. S. SMALLEY, T. B. FORBUSH, L. L. WHITE, THOMAS LAURIE, A. J. GORDON, JOSEPH STEDMAN, THOS. B.

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## BRISTOL COUNTY.

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### ATTLEBOROUGH.

Republican government can only find its support and ultimate success in the general intelligence. The intelligent convictions of the people were the basis in the late conflict. Success depended less upon the superior abilities of the statesmen and generals, than upon the diffused knowledge of the principles of government, carrying with it the determination to sustain the principles upon which the government was founded.



intelligence, the vastness of the issues at stake could be understood, but when understood, the necessary resources could be secured, an unflinching tenacity of purpose maintained,

every community in the State is making increased progress in education within its limits. Our own duty is to move forward to afford the opportunities demanded by the progress, to avoid falling into the rear ranks in the progress of advancement.

There is a way in the purchase of good books. They bear the cost of a hundred-fold.

Education is always useful. To the young mind it is a great blessing, as one or the other may be earliest or most useful. The quality and appliance of school instruction is of great importance. No reasonable outlay for improving instruction, and its fullest application should stand for a moment.

FORD, D. BREED, J. D. PIERCE.

## BERKLEY.

It is the duty of school districts (nos. 5 and 6,) to the condition of their school-houses. It is the duty of parents to huddle together your children in such inconvenient buildings—the air poisoned by respiration—your children by the tortures of improper and uneasy seats—a waste of time and money acquired that will not easily be overcome. The school-room should be the most attractive and desirable to which children and youth have access, or to which being attractive we do not for a moment favor the least any improper or hurtful inclination of children. The school should be pleasantly located, with ample play-grounds.

The school-room should be commodious, well furnished by blackboards, maps, figures, and the desks. It will have laid a foundation upon which the superlative may reasonably be expected to result from a full and indispensable requirements, viz., the employment of every party co-operation in all their endeavors to improve the intellect of your children. We respectfully request you to have a right to your prompt action in these matters. Do not justify to yourselves a further neglect? Why inflict suffering and death, upon their bodies? Why dwarf their

minds? Because forsooth! you will not incur the outlay of dollars which can be expended without the sacrifice of your life. The responsibility rests with you, and it is greater than you can bear.

*School Committee.*—WALTER D. NICHOLS, DANIEL S. BRIGGS.

### DIGHTON.

Prudential committees still continue to be allowed to exercise power is so placed either thoughtlessly or from a feeling that the thing is more democratic, probably the former, for no one who has conversed, has a single argument to give for its continuance to care for it any more than as a precedent which will follow year after year. Each year only impresses upon the mind the necessity of a radical change in this respect; that it is necessary later we are convinced, and that it would come at last if we could the people but examine the matter in all its bearings.

Many of the evils which we find pervading our system of education administered here, are inherent in the manner of its administration, observable everywhere an entire want of harmony. There is that want of unity of action and purpose which will not permit the powers which should belong to one are exercised in many different directions. No school committee, having any regard for the convenience, would wish to have the selection of teachers by the town. The power by right belongs to them from the position which they hold in relation to the schools. Their familiarity with the various needs of the town and the relative wants of each would enable them to select a teacher peculiarly fitted for it, and suited to its needs. If school committees, it would seem, do not desire the task, since so many of them extend the office "goes a begging." One year's experience has shown "he that putteth off the harness is happier than he that putteth it on." Previous to the year 1827 prudential committees had the selection of the teachers devolving upon the selectmen, but in that year, by what now appears an ill considered act, the general committee were restricted to a committee of examination. Subsequent legislation modified the act, so that they shall annually decide which shall contract with the town. The system never changed from the "municipal system" was a result of the legislation should have removed, not modified.

According to our theory the town, and not the district, should furnish each child with an education. The statutes of the State, the delegation of this duty to districts, but distinct from the enactments, require the towns to perform it. "The money." "The schools shall be kept at the expense of the town."

, has an equal right to the means of an education; just as strong as is the duty of one to furnish the other to claim it. Where then consists the difference between the two weeks school for a child in District No. 2, and only one week in District No. 1? As the school money is now appropriated equally among the districts, one-third according to property valuation, and one-third according to the number of children attending school. Each of these is an unjust method of distribution. A combination of the whole does not make a just one. The present method is just and right, which does not secure to every child an equal amount of school attendance in a year. It is impossible, so long as the care of the schools, and the arrangements for salary are intrusted to eleven different bodies.

Whoever thinks seriously on the subject, can hardly imagine the difficulties of a teacher in organizing a mixed school at the present term. Scholars of all ages are present, from the youngest pupil who studies alone algebra, history and geography, cutting out and uniting to the best of his ability, making up his classes that there are twenty-eight or thirty hours in his school hours, time requisite for opening exercises, and has left sufficient time to give each class eleven minutes for this amount only, making no allowance for the time spent in asking questions, settling questions of discipline, and other matters of serious consideration, and one which should not be given attention whenever a new school-house is to be erected. If a change is contemplated, in order that our present system of districts may be decreased, and thus very decided improvements and increased accommodations and facilities for school

E. E. GOODING, GEORGE C. BURGESS, CHARLES W. TURNER.

## FAIRHAVEN.

When a child enters a strange school for the first time, has many difficulties to overcome. He has to become familiar with the names of his classmates, acquainted with their attainments, before he can begin to study. And, what is often much more difficult, he has to overcome the temper of each, and establish his authority as a teacher. To overcome the distrust and gain the confidence of the disobedient and unruly must test his power to govern. He may not indulge a little their wayward proclivities. The time of each successive term is little less than wasted



in the reconstruction of the school, which, after something like a compromise between the doubtfully established authority of the teacher, the tried and successful teacher returns to. He meets the familiar, smiling faces of his former pupils with a pleasant welcome, and then quietly takes his room, unconsciously yielding to an authority which, hitherto, has been so wisely used as scarcely to be noticed. The teacher and scholars assume their proper places, and the vacation has proved not a loss of pleasant recreation from study.

Such a teacher naturally receives the aid of the parents for peace and good order of the school. As a guard against the idle or vicious gossip of the town, the established character of the good teacher is maintained, and co-operation of the parent, and the improvement of the home with a complaint of some fancied grievance, is dismissed with a pathy and creating disturbance, is dismissed with a promise to be a good child and mind the teacher. The teacher and all goes pleasantly again.

If the village schools of the town possess advantages over rural districts, if their pupils are more advanced, if there is greater punctuality in attendance, less tardiness, if the discipline is better maintained generally, we believe in the continued employment of the same teachers throughout the year.

In many districts, a semi-annual change of teachers is the usual custom of appointing a man to teach for a year, an erroneous notion that to have a good school the teacher is the requisite.

It is not necessary to discuss the relative merits of the two classes of teachers, but it is safe to prefer the services of a man whose business of teaching, to those of another, who is engaged in some other business, fill up a vacation happening in some more congenial situation.

*School Committee.*—ISAAC FAIRCHILD, CHARLES DREW.

## FALL RIVER.

Nothing perhaps indicates more exactly the character of a city or town, than the proportion of children attending school; and nothing does more to influence the character of a place of residence, than the reputation of the school. With unfeigned regret your committee are obliged to leave this subject.

large number of children, who do not receive the has ever been the policy of Massachusetts to and daughters. If the same amount of labor, education, was now inflicted upon the colored child which is endured by many young children of this relief sympathy, and we should all be anxious relief.

upon our schools is greatly diminished by the almost total neglect in the observance of the children employed in manufacturing establish-

just; and one of the wisest enactments to be; and yet there is much greater ability displayed than in the means provided for its enforcement; are not against the parties immediately concerned. is subject before them, and we trust will remedy

endangers a republican government as permit- up in ignorance. Of this we have had a most during the past five years. Had the New Eng- school education prevailed throughout the South, never have occurred. A large proportion of in the end, work out the same moral, social and y or town, as they do for a State. No rule is an this: the more intelligent the artisan, the plan, the more labor will he perform, the better less will be the wear and waste of implements may add, the intelligent are more thrifty as a derly, understand better their own rights, and ers. What we have just stated as the effect of an, will also apply in full force to those who vements of a machine; and the general appear- operatives, and the pay-rolls of any corporation,

ted, expresses the opinion of our legislators as ling a child should receive before he takes upon tizen;—and the State affords to those children, t upon her bounty, the means of education far above enjoined. In any ordinary case, a parent or entirely fails to comply with the reasonable does himself, his child, and the State, a positive am the child can earn in the weeks he should be ciety and success in his calling may be affected



all through life ; and the staff is weakened upon which depend for support in his declining years. And those children, in disregard of the law of the State, not only set a bad example, but, for what may seem to be present gain, lay the foundation for an increase of taxation, and lessen the value of all the capital they have invested.

We have no doubt, if all the owners and managers of property in this city, and others who employ these young sons of idleness, would strictly observe the provisions of this law for their own benefit, they would find themselves great gainers thereby ; they would have the approval of their own reason, that they were, in fact, abiding citizens ; and were not accessory in depriving the children of an inestimable blessing, which they would not have for their own offering for any earthly consideration.

*School Committee.*—G. O. FAIRBANKS, G. W. LOCKE, C. W. BUCHANAN, A. BOOMER, WILLIAM CONNELL, JR., BENJAMIN EARL, JEROME DWIGHT.

*Text-books and Teachers.*—Good text-books are, no doubt, necessary for the acquirement of knowledge. Nevertheless, the welfare of schools depend much more upon the efficiency of teachers than upon the use of books of any kind, on any subject relating to school-life. In principle, series of books for schools are decidedly objectionable. Text-books can never take the place of good teachers. The true value of text-books, at the present day, is as much overrated as the real value of class teachers is underrated. As popular education has advanced, text-books have multiplied, until they are as thick as the sands of old Egypt. Many aspiring authors have brought forth little better than scholastic trash, a heterogenous compound of error, of science and sciolism. This makes the selection of text-books a perplexing duty. All new school-books do not contain new ideas. They are a hash of old doctrines in new and disguised forms. The notions of such books confuse, rather than instruct, the student. In a sciolistic medley, they lack distinctness of definition, and precision of statement. Almost all text-books of the present day are by far too large. Text-books on the great subjects of education are much better for schools than text-books on the small subjects of individual theories. It takes more time to write small books that are good for something, than to write large books that are good for nothing.

"As is the teacher, so will be the pupils." This maxim is an important truth. No book could be written that would be adapted to all minds. Skilful teachers supply the necessary material for all text-books used in their respective schools.

vacuous thoughts, clothed in elegant language; but in lively emotions of thought and action in the presence, in all their doings and sayings, phlegmatic and unexciting instructor makes a lively school, and the reverse is true. A cavilling teacher, is sure to have a troublesome generation of childhood will be converted into the sour feeling. The gall of bitterness will overflow the cup. A noisy, boisterous and bustling instructor will be the cause of which there is "much ado about nothing."

It does not consist so much in words, as in acts. Too many. Superfluous explanations are a waste of time. Some commentators on the Scriptures, who make a display of verbal and philological lore on passages of obvious meaning, while they pass over in comparative silence the great truths of nature; and the learner is left in the dark.

Constant need of more light: and, when properly supplied, still more, with increasing interest and awakened faculties. William Hamilton said, that he regarded "the main object of education consist not simply in communicating information, but in a manner, and with such an accompaniment of interest, that the information he conveys may be the occasion of a vigorous and varied exertion of their faculties." This principle of instruction applies to school teachers. If pupils are dull, progress is slow; and nothing short of ideas, or things of interest, interest scholars, either young or old. "A haze of ignorance," is a fog to the mind and a barrier against

any further suggestions to offer on the difficult subject of the origin of this evil is too obvious to need comment. For that of the school teacher, to directly educate the child, increasing; and something ought to be done immediately. The future welfare of the city demands that the matter now exists, the committee, the superintendent, are powerless in relation to its eradication. The school wishes to encounter the evil, is no good reason for not doing so patiently, mildly, yet firmly. Therefore, I recommend the establishing a school expressly for truants and all children. The principal of such a school should hold the commission to attend school, he would have power to arrest truants, and to bring them before a legal tribunal for punishment. I would recommend, in such an event, the place for the temporary confinement of such



offenders. The almshouse is not at present a suitable place for the purpose. In case a truant school should be established, and properly managed, I trust that no such place would be needed. I have no doubt that such a school would have a very salutary effect on the schools of the city: provided, it should be generally understood that no quarrelsome, stubborn, untruthful, profane, obscene and idle pupils should be sent to the truant school; and that they would remain there during the vacation, before returning to their former schools. There is a school-house on Town Avenue for the proposed trial.

Absenteeism is intimately connected with truancy, though it does not necessarily imply the other. It is evident, that non-attendance at school prevails to a great extent in the midst of us, from the fact that four thousand one hundred and sixty-four legal scholars in our city, about two thousand and fifteen attend school on an aggregate of less than a half of the whole number.

I am often reminded of what was a practice of Pythagoras, a philosopher and teacher, who "was accustomed, when any of his scholars deserted his school, to set an empty coffin" in the vacant seat, so that the absent pupil was "morally dead."

*Evening Schools.*—According to the laws of this State, "An act to establish and maintain, in addition to the schools required by law, and maintained therein, schools for the education of persons over fifteen years of age." Since Evening Schools are not required by law, they are called benevolent institutions. For several years, liberal aid has been made for the support of such schools in our city. The aggregate average attendance in the three schools, last winter, was one thousand and sixty-three and a fraction. They were in session nine weeks. So far as I know, they compared favorably with the day schools of the same class. I think there might be a more judicious expenditure of the means furnished for their support, by making them more to the spirit and purpose of the law authorizing their establishment. They were last winter, a large proportion of the scholars in the city between fifteen years of age.

It is known, that some pupils attended these schools in the day-time, having played truant in the day-time. As a general principle, children under fifteen years of age should not attend these schools. Last winter, in some instances, kind nature rose up in righteous indignation against the practice of sending to these schools young children, weary from the day, by bearing them away in the arms of refreshing sleep. Whatever, should these schools take the place of those required by law for the education of all children between five and fifteen years of age, irrespective of caste, color, or condition in life.

*Superintendent.*—DANIEL W. STEVENS.

## FREETOWN.

the town stand on the ground of equal rights before an education. Mr. A's children have no more rights to an education as our free Public Schools may secure it. Every child that comes into the world has an absolute right to such an education at a suitable age. The faculties that the Creator has given to every child are considered his tools with which he is to perform his part in the shop of the world. Education teaches him what his duties are, and the child that receives the best education is the most successful, other things being equal, in the exercise of his faculties, improving the opportunities and advantages of life. In every child in town a suitable education to fit him for all the moral and religious duties, there is a divided responsibility. The committee as the agents of the town, the teachers and the children, have each a part to perform. None can be neglected without a public as well as private responsibility. All on whom this responsibility rests will meet it, and all will be prepared to take a stand higher and nobler than any other. An education of some sort they will have. The streets, the shops, the churches, the theatres, the various scenes of amusement. If the school-room is the only source of education derived from sources external to the family is often the only one. Our penitentiaries and houses of correction are the results of such an education. To prevent such a state of things has been done, and is doing much to discharge its duty towards the children of the Commonwealth, and to encourage the parents to do their duty. Not only the children of the town, but not only the children whose mental and bodily faculties are sound, but those also who are blind, deaf and dumb, and the children of the Normal Schools for the education of teachers, and the several colleges in the Commonwealth, for those who may be desirous of obtaining a liberal education, and the agricultural schools for preparing young men for the farm, they may prefer. The cities and towns are nobly responding to the improved school-houses, and faithful supervision; the select Schools. This is wise, it is true economy, and it has made Massachusetts, with its puritan and its pride and glory of all her sons and daughters.

L. G. DUNGAN, SYLVESTER BRIGGS, REUEL WASHBURN.



## MANSFIELD.

I wish to impress upon those whose duty it is to select only those who are fully qualified, of general opinion. Great numbers annually enter the profession with the intention or desire to remain longer than necessary, and wish to use the profession simply as a stepping stone to higher esteem higher and better, or as a turnpike that leads from one field of labor to another more luxuriant and inviting. Under this system our schools are made to suffer. A teacher without devotion and love for the calling sufficient to make him successful has not, in a scriptural sense, "a mind for the business," and will succeed but indifferently. Suppose a physician, who should take up the practice of medicine just to make it more lucrative in future, would any one in case of illness trust themselves or friend? Or who would engage an architect to construct an elegant residence, or a tailor to make a nice fitting garment? And why intrust the office of teaching because it offers the quickest means of advancement? A teacher is a model of scholarship, character and conduct, even in little matters, commonly regarded of small consequence, closely copied. The least impropriety in his conduct is commented upon, freely by those who watch him, and every such impropriety tends to weaken in the public mind the importance of a conscientious regard for right.

If then, the teacher is so powerfully an agent in the education of those under his charge, which no careful observation of placing before the young a model which is at once apparent.

It is believed that one-fourth of the money now paid by the prevailing practice in most districts of country is at each term of school. When good teachers are employed, they term after term? This subject has been considered, and reports that it seems useless for me to call attention to those intrusted with the duty of employing teachers, and to those competent teachers who have been employed in schools. It will not do to heed too much the urging of persons for some "near relative," or "very dear

*Superintendent.*—THOMAS E. GROVER.

## NEW BEDFORD.

—The Evening Schools for adults were re-opened. It is now seventeen years since these schools were opened, and the results have been highly gratifying. Those who were deprived of the privileges or misimproved their early life, of gaining an education; a chance under the new system, in part for those deficiencies by improving the winter evenings in study; a chance of which they have availed themselves. The school now numbers one hundred and forty-five females, with four teachers. The scholars attend the evenings, and generally seem attentive and anxious. It is hoped that the education here furnished will kindle in the minds of the scholars, if cherished, will lighten and illumine a pathway that was formerly dark and dreary.

The study of drawing has for some years been pursued in the schools, and until the present year has it been made one of the courses of the Grammar Schools. By vote of the board it is now required in all the Grammar Schools. Under the supervision of the present efficient teacher of that branch, the scholars confidently expect desirable results.

The study of music is regularly taught only in the High School, but is more or less practised in all the schools. It is generally considered that lessons in music might be given in all our schools, but at all with other studies, but on the contrary by the board of education, and that they would help the scholar to advance in his studies.

It is a great necessity, as some men reckon necessities, but others value the charms a money value, and if we are not to neglect anything that is not absolutely necessary to the education of the people, it has a right to remain, to be cultivated, and to bless the mind of the scholar. If anything to be happy, then music has a value. If we insist that happiness is worth nothing, we make no account of it.

At the recent vote of the board, the principal of the High School, with the superintendent, is authorized to form a class of scholars in the fourth year in the High School as a preparatory class, and to furnish instruction in regard to the principles of teaching so far as it can be done without interfering with the regular studies. As a large portion of all our female teachers are graduates of this school, we think the experiment at this time of the teacher well worth a trial.



*The Primary Schools.*—I begin my report of the condition of the grades of schools with the class which, in several matters, is the most important of all. I mean the Primary Schools. It is in them that the foundations are laid for the whole superstructure of education. It is in them that right or wrong methods are either healthfully opening out the minds of the little beings of knowledge, or are abridging them of their rightful opportunities in them that habits are formed, good or evil, which it is the power of future training to eradicate. Of what extent is it then, that the business of education, begun in these schools, is begun aright!

A complete renovation has taken place of late, in the lower grades of this grade of schools, among first-class educators. It is a renovation, and it is complete. I suppose that to introduce a novel kind of exercise called "Object Lessons" among the old methods of the Primary School-room, extension of the new system, have only a faint conception of its nature and scope. Object lessons, distinctively considered, consist in its means to adapt instruction to the actual needs of the child, whereas the ordinary method condemns the little ones to sit through the school hours in wearisome idleness, this keeps all the school at work. Whereas the ordinary method teaches by placing the alphabet before the child, designating the sounds by drilling their names and powers into his memory by a process of iteration and echo, the new method teaches him to grasp the abstract through the concrete; and taking no step, without associating sound with sense, and every symbol with a thing. Whereas the old method reverses nature's order, and gives next the conception, then the thing; the new one follows first the thing, then the conception, then the word. "The child's intelligence of the child and that through the senses, upon which all conceptions are formed, and then uses those conceptions as the basis of all learning, and vital." And as with the alphabet and language, so with arithmetic; always the concrete first, the abstract afterwards, thoroughly symbolized, illustrated, apprehended; the subtraction and multiplication—learned by intelligent inwrought with concrete realities, that the end is pleasant, without even a notion on the part of the scholars, of the senseless task-work by which those tables are usually learned by memory. And these renovations have gone beyond measure, and are in the full tide of satisfactory and delightful performance.

I am not prepared to say that, so far as the present state of knowledge for transfer from a Primary to an Intermed-

accomplishes much more than the old. For as children can remember words, as words, without any idea whatever. They can use words which to them they mean nothing. They can repeat them without emphasis, as though they really meant something. The technical quantum required for advancement to the next time be drilled into them by the old method. But theirksomeness of school-life to little children, under the new system, is bright, occupied, elastic interest under the new ; the work of the old system with the awakening and the quickness and accuracy of observation, the—in a word, all that course of training which “lays the growth by a correct acquisition of the elements of the triumphs of the new, the superiority of the latter give to it my unqualified and enthusiastic adhesion. I said, furthermore, upon the character of the pre-work of the Primary Schools. These may surely be able exponents of the character of the expectation of their teachers. For, if little is supplied to do a probable inference that but little is expected to be a portion of our schools of this grade are furnished for each scholar, instead of the ill-advised arm-chair scholars of such favored schools have something to do. There are there sufficient and systematic provisions to do to be found have invariably been intended for the only, and therefore placed at a height that renders the scholars ; and the most even of those are in too used. There are no sets of counters, no charts and no to recite by ; no cabinets of objects for illustration. A meration frame or a stray alphabet chart ; and that is supplied for the working of our Primary Schools. The school-room in the city belted with blackboards, that quality and maintained in the finest condition. For the outrements are to the soldier, the blackboard, among the teacher and the scholar. Whatever teacher does not have blackboards furnished him, is ignorant of one of the true method. If I were personally engaged in the and I must forego in certain studies,—arithmetic instance,—the text-book or the blackboard, I should not know which to choose. I would surrender the text-book rather than be deprived of the indispensable advantages afforded.



And in a Primary School as well as any other, there should be a surface in blackboard to exercise a whole class at once. And it should be provided those other assistances that have been adverted to, not as triflingly trifling in cost, but invaluable in use.

*The High School.*—A feature has lately been added through the action of the board, that I am convinced will prove of singular value. The vacancies occurring from time to time in the corps of teachers have been filled and are likely to continue to be filled in a large majority of instances, from among the daughters of our board who have been educated in the High School. It is a very judicious suggestion, therefore,—Cannot something be accomplished with the members of the school who purpose to become teachers shall be sent into a Normal class and receive direct instruction in the theory and practice of teaching; and thereby, when they come into our service, bring with them a measure of enlightened experience to their work? Cannot the theory of instruction and discipline be incorporated with the present system of the school, without prejudice to its order or efficiency? The result is practicable. It constitutes a fundamental feature of the organization and course of study of the Girls' High School in Boston, and has been made at least an important auxiliary here.

The suggestion to form such a class was made to me towards the close of the fall term by the principal of the school, and was accepted with gratitude and alacrity. I lost no time in bringing the matter to the attention of members of the board, which unanimously adopted the following resolutions:—

*Resolved*, That the superintendent, in connection with the principal of the High School, be empowered to form a Normal class out of the upper part of the High School, if it can be done without prejudice to the regular studies of the students; and that the board be authorized to give instruction in the principles and practice of teaching; and that the board be authorized, under the same conditions, to give the graduating class of the High School mental practice in teaching in the various schools in the city.

*Resolved*, That those of the graduating class who satisfactorily pass the prescribed Normal course, shall have precedence, other things being equal, in the appointment of candidates for teacherships within the appointment of this board.

*Evening Schools.*—The institution of evening schools for the education of youth who are occupied in the daytime, is the crowning glory of our admirable school system. Massachusetts was simply faithful to her principles and her traditions, when she gave the support and sanction of law to what had already been undertaken in some localities by the contributions of private philanthropy; when she resolved not only to provide instruction for all the rising generation within her borders, but to give the means of knowledge to those who have been so unfortunately brought up in ignorance.



pepest interest in our evening schools, although  
ave thus far prevented me from its practical man-  
e that they are in the care of such able and  
eir privilege to enjoy.

ool.—Early in the fall term I came across a nar-  
New York, that for some years has been under  
ng itself. The principles and methods of the  
detailed, and my attention was forcibly arrested  
n after, I handed the narrative to Mr. Barrell,  
one so constituted as to admit of such an experi-  
did not know as he could make any practical  
y rate it would be interesting to read. Impressed  
took occasion to read it to his class; and then  
lumbered. But it was not long before a debate  
th a recitation in geography—on the different  
hat prevail in the world. The modes of school  
ally brought in question; and the result was that  
early fifty members of both sexes) resolved, with  
a, on governing themselves.

successful experiment. Its effects are visible day  
uring conduct by the will of another, the scholars  
personal duty and self-respect, and this elevating  
tones all the habitudes and intercourses of the

periment as having a general as well as local  
Barrell to furnish me with a brief account of it  
ply is subjoined:—

NEW BEDFORD, Dec. 27th, 1865.

*Superintendent of Public Schools:—*

s concerning a form of government adopted by my  
following statement:—

n geography about three months ago, the subject of  
sideration. The class defined the different forms of  
sed freely about them.

t the point was reached where the class was asked,  
nt indicates the highest degree of civilization?" A  
ment," was the prompt reply. "Is the government  
was asked. Some answered "Yes," others "No."

of the class in the subject had become intense. After  
e government of the school was not republican, the  
Why is it not?" Various answers were given, which  
g. A new aspect of the subject was presented to the  
y discussed it with all the enthusiasm of statesmen.

ked, "Can you sustain a republican form of govern-  
the reply. "Do you wish to try?" "We do," was  
eably to their wish, they were permitted to "try."

A committee on rules and regulations, consisting of five members was proposed and agreed upon. Two were appointed by the class by ballot, and these four elected the fifth. They reported a few short and specific regulations, which were adopted and still remain in force. No other regulations have been adopted. The class have elected weekly, by ballot, committees of one member for "cleanliness," "order," "punctuality," "industry," "ment" and "neatness," and usually on "recess."

The demerit marks have been almost exclusively given by the committee, and have rarely been questioned by a single pupil.

A few instances have occurred in which pupils have been charged that their cases have been submitted to a special committee of the board of education. In no case has a charge against the pupil and the decision of the committee been presented in writing; and in no case has an offending pupil been dissatisfied with the decision of the committee.

Near the close of the last term, I submitted three questions to the committee of the class, which, with the answers given, I will add:

"Have the pupils sustained the republican form of government?"

"We think they have."

"Will pupils be more or less honest under this form of government than they will under the ordinary form of school government?"

"More honest, decidedly."

"What is your opinion of this form of government?"

"We think it much better than any other. It teaches us to be honest."

My assistant and myself are fully convinced that this plan of government has developed and fostered a spirit of integrity and honor which is as unusual. Yours truly,

J. S. BARR

*Principal of Fifth Street Grammar School*

I fully concur with Mr. Barrell as to the influence of this form of government; and I rejoice to say that, although nearly six years have elapsed up to this present writing since the experiment was first made, it is still in satisfactory progress, proving it to be a solid success.

*Superintendent.*—H. F. HARRINGTON.

## RAYNHAM.

Here too we have realized the benefit of permanency in our teachers. They have not been changed at the close of every term. The districts have had the good judgment when they have selected a teacher to hold on to her as long as possible, and thus they have secured a steady advance. But universally where the system of changing teachers at the close of each term, to gratify the whims, caprices, and fancies of one or two very unreasonable persons, has prevailed, there the town have suffered, and money has been spent to but little purpose—comparatively—the due equivalent is not returned in the improvement of every parent's child. One of the greatest losses to



plate, is the removal from it of accomplished  
those above referred to.

ols have proved the advantage of the continuance  
ve demonstrated the ruinous policy of frequent  
power of even a good teacher to accomplish  
gle term. It takes the whole of that time for the  
with the school, and to bring its various scholars  
and for the scholars to get acquainted with her,  
The second term is worth twice the first, and  
and so on, are ever increasing in value. But  
term, and it is almost impossible for that school  
and arrive at a high grade, to fulfil the just  
s and to accomplish at all the end aimed at by  
nt school and prudential committee.

BREED, SAMUEL JONES, E. B. TOWNE.

## SEEKONK.

rt an increase in the regularity of attendance  
aggregate average attendance being almost 84  
nearly 4 per cent. greater than that of the pre-  
a small increase; it is, however, a step in the  
believe that if parents would manifest that interest  
importance demands, there might be still greater  
ct. The evils of irregular attendance are many,  
scholar do not end in the school-room. It is true  
bsent has a lower place in his class, but this is of  
ed with the fact that much of success or failure  
n the manner in which school tasks have been  
school training is to fit the scholar for future effi-  
dertakes; but if he is absent so much as to inter-  
eration of his lessons a portion of that training is  
ture effort can wholly repair that loss.

is not wholly to make scholars; but also to aid  
acter, to root out moral evil, and implant good  
sionally meet with scholars whom they pronounce  
y are unwilling to comply with some reasonable  
require wise management, for the exercise of too  
of the teacher, may increase the wilfulness of  
may be very detrimental; when gentleness and  
n to obedience, without ill-feeling.

M. NASH, ELNATHAN PECK, SHUBAEL H. GOFF.

## TAUNTON.

*School District Records.*—Since the districts have ceased for the settlement of uncompleted business, their records closed and ended. We do not raise the question, to whom keeping shall then belong. But none can doubt that their preservation is of great importance; not simply for their historic value, but for the evidences which they must contain of titles to land occupied by the buildings. It seems to us, therefore, highly proper, not that these records should be collected and carefully kept under the custody of the city. Unless so collected and that in a short time share the common fate of documents for whom no one is officially responsible.

In the general destruction of the archives of this town a few years ago, the preservation of every fragment of our local history has become doubly desirable. Your committee therefore, recommends that some effective steps be immediately taken by the city to insure the collection and preservation of the school district records.

*School Committee.*—ERASTUS MALTEY, ANDREW POLLARD, HENRY B. POLLARD, CHARLES H. BRIGHAM, THOMAS J. LOTHROP, HARRISON TWEED, M. J. TWEED, JOHN E. SANFORD, CHARLES W. MELLETT.

## WESTPORT.

*High School.*—The committee are satisfied that the educational value of the town would be greatly enhanced, if a High School, authorized by the statute, was established within its limits. It is now a Private School at the head of the river, which has been in operation for several years; this school has done much to raise the standard of education in this town. Many of our best and ablest teachers have received or completed their education at this school. But the people of that vicinity have received by far the greater benefits. This advantage arises partly in consequence of their proximity to the school, which affords them the opportunity to enjoy the advantages of the school without incurring the expense incident to those more remote.

This objection would apply to some extent, if a Public School was established; but all would be placed upon the same footing as far as the tuition is concerned. The doors of the school-room would be opened to all, and a free invitation given to all the children of the town to pursue the higher branches, to come and enjoy its advantages. There is no doubt that many of our youth would gladly avail themselves of the advantages offered by such a school, and that hundreds of dollars now annually expended in sending children out of town to school, and the home and home influences, would be saved, and the stan-



ould be elevated still higher. Establish a school of  
r children will reap a rich harvest, and its salutary  
felt by generations long in the future.

BROWNELL, C. F. SHERMAN, CORTEZ ALLEN.

## MOUTH COUNTY.

### ABINGTON.

moral nature opens a subject requiring serious  
ublic day schools the tenets of no sect are to be  
truths which cannot be left out of sight in training  
there is an overruling Spirit to whom we are  
quires of us to perform the duties of life in accord-  
es, should be impressed upon the forming mind by  
pecially in cases where reprimand is required.

have expressed show what should be the style of  
chers. With literary qualifications, such as their  
uld have a keen sense of justice and equal rights.  
lass distinction; no rich or poor; no distinguished  
Each child is a stone to be built into the fair temple  
future matron, or voter, perhaps legislator. By no  
elf, or another, should a lesson of wrong be taught,  
akened, leading to the repetition of wrong, in either  
teacher who had unjustly punished a lad, attempted  
the assertion that the father of the injured scholar  
y showing so slight a sense of justice as wholly to  
trust which had been confided to him.

ected, of one to whom the government of a school is  
er of self-government should be possessed. A fret-  
teacher is forming pupils to a kind of manners, cal-  
sly the happiness of domestic circles. The more  
in the hours of teaching, the more conspicuous will  
a of a spirit ruled by internal energies. This is  
when occasions occur on which an infliction of  
. A hasty blow, struck in anger, is a bad educator;  
is in evident sorrow, and in manifest desire for the  
will not be over-severe, and a healthful moral  
and the necessity will be infrequent.

We will not linger to describe an ideal teacher with myth not to be found in real life, knowing that such would be those of larger means ; but there are great rules, the effect of which would bring—nay, have brought—many instructors to attainment, as renders the places where they preside beneficent streams of influence.

*School Committee.*—SAMUEL DYER, LEWIS E. NOYES, SERENO HOWE.

### BRIDGEWATER.

The discipline of the school must be firm, mild and uniform. We do not advocate for severity ; neither do we believe that a school should be perous without obedience. The aged, who remember the discipline of their younger years, will not be apt to complain of the severity of the times. We do not believe that corporal punishment is to be discarded ; much less should pupils think it is seldom to be used. A great judgment should be used in its application. It should be used with undue or unguarded violence, nor in a passion or haste, but with calmness, mildness and consideration.

The exercise of punishment in school requires all the meekness and benevolence of a kind, judicious and thoughtful teacher, while he has charge of a school, is in the place of a parent. He must exercise the same authority and government over the school as a parent is expected to exercise over a family. The teacher is the government of all the scholars while they are in the school-school-grounds ; and, according to the opinion of many, while they are on the way to and from school. If he exceeds or falls short of the mark, it is a remedy. But he is under the most imperative obligation to maintain a firm and consistent discipline ; for without it no school can be maintained for which it was established. The teacher in this work has a right to the co-operation of parents, who can do much to relieve him of anxiety, but never of responsibility ; but while children are in school they have no right to interfere with his government. If he has power, there is an easy way in which redress can be secured without disturbing the order of the school. There is a body of men in every town to superintend the schools, and to see that the discipline is redressed, as well as to see that the schools are well managed. A right of rightful authority and unquestioning obedience is not sufficient in our school discipline at the present day ; and, in the words of the law, we say that " Young America needs to understand the meaning of the almost obsolete imperative, obey."

We cannot close our report without repeating what has been said in previous years, and calling your attention to the importance of more heed to what is usually called moral education than



of the Commonwealth make it an imperative duty on suitable occasions, to inculcate "the principles of sacred regard to truth; love of their country, benevolence; sobriety, industry, and frugality; temperance; and those other virtues which are the basis of society, and the basis upon which a republican government is founded. In accordance with this law, the following regulation by the city of Boston, viz.:—"The pupils shall be required to avoid idleness and profanity, falsehood and deceit, disgraceful practice, and to conduct themselves in an orderly manner; and it shall be the duty of the instructors, as well as to exercise a general inspection over them in these schools; and also, while going to the same and on all suitable occasions to inculcate upon them the principles of virtue."

These regulations are wise and reasonable. Without education, man can be more than half educated; or without it, man is not educated at all. The moral faculties, conscience, are the distinguishing traits of humanity, and the discharge of the various duties imposed upon man. The education of the intellect may make him wise to do evil, but it will not make him wise to do good. Increase of knowledge is good, but it is not wisdom. The influence of our schools, the influence of our teachers, such as to inspire in the hearts of the young the principles which adorn and embellish every walk in life, and to inculcate all those habits of diligence and punctuality, of incorruptible honesty, which are indispensable in a free government. And it must not be overlooked, that all genuine education is based upon the principles of the Christian religion. Hence the necessity of having some portion of the Bible read in our schools, according to the laws of the Commonwealth. Education signifies, implies the cultivation of the moral as well as the powers of the mind; and he who does not view it in this light, has an imperfect view of the subject. Mere intellectual education will not make any man a good man. It is indeed a necessary condition to knowledge, there must be moral virtue. Without moral virtue, no man can be safely trusted, no man can satisfactorily discharge the duties which he owes to himself, or to the community. If moral virtue be possessed by a State or society, its continuance, just so essential is it that the conscience of the people be highly educated.

LESLIE GAY, FREDERICK CRAFTS, JOHN A. LOTHROP.



## CARVER.

The constant change of teachers, so common in our misfortune. For when the teacher has become acquainted with the attainments of each scholar, and has learned the peculiarities of the school, he is better prepared to enter upon the earnest work of that new teacher who would have all these things to learn. If a teacher has been successful, especial effort should always be made to secure his services.

We most cordially invite parents frequently to visit the school. You would not employ a person to do any other work than attending to the way in which it was done. Do you think you are unable to judge in this manner?—but you do judge from the results. Could you not much better, and perhaps more correctly, judge from personal observation? And besides this, it would greatly interest the teacher, and make him feel that you were really interested in his doing, that you regarded his work of some importance, and that you inspired him with new energy and devotion. And again, it would be a happy influence upon the scholars. They are apt to be interested in the interests of their parents. And for you thus to manifest interest in their daily work, seems to give dignity and importance to their studies. As a general rule, we find the best scholars in the schools to be those who are loved by parents.

We are not ignorant of the difficulties which meet the teacher when he enters the school-room. The first embarrassment is, the large number of classes,—greater in some cases than the number of teachers. He feels that the efficiency of the school depends largely upon the classification. The first question, therefore, is this:—What is to be taught? The rules and theories of authors? Or am I to teach principles of science? Am I to teach Eaton's Arithmetic, for instance, as it is, or of arithmetic, as arranged and illustrated by Mr. Eaton? It is the question that it is ideas, and not words, that the scholar must grasp. Then he can organize the school into classes that will work together.

And we think the teacher should ever keep steadily before him the principles with which he started—that he is to teach principles. It is not thinkable, but they are not to take the place of oral instruction. The book is designed as a mere guide, as an outline of thought, but the principles contained in the lesson should be varied to suit the capacity of the scholar. And familiar, practical illustrations will awaken interest and in fixing the attention. It seems to me that the aim of the teacher should be, not so much to "cram"

as," (many of them, perhaps, above his comprehension the memory,) as to call out and exercise his mind, thus teach him to think for himself, to reason independently and vigorously with new truths. When this appetite, which has been awakened and stimulated, the scholar draws from everything in life around him. True education is such a "pouring-in" process as a "drawing-out," and a strengthening of the intellectual faculties. And when his mind has become vigorous, by healthy action, he is prepared to act nobly his part in the earnest work of

FRY L. CHASE, T. M. SOUTHWORTH, WM. LEACH.

### EAST BRIDGEWATER.

attention to one other study of great practical value, —the history of the United States. The branches required in 1826 to be taught in our schools, were orthography, English grammar, geography, arithmetic, and good writing. As it may seem, it was not till 1857 that the history of the United States was added to the number of studies required. The subject, by some singular oversight, has received but little attention.

When required to be examined in this study, it is taught even in our Grammar Schools; and the result is a general ignorance among those who are to be the future support of the country concerning those events which led to its establishment and its prospered prosperity. It is apprehended that many of our youth are unable to mention the causes of the war of the Revolution, the date and description of the principal battles by which it was terminated, and the final one by which it was terminated, and the results were achieved.

It is not only exceedingly interesting and instructive in teaching these we teach patriotism. It is an efficient means of impressing upon the young mind with a love of country. By learning the features of our free government, they learn that it rests upon the intelligence, virtue and integrity of the citizen. They are led to feel that every one is responsible for the rights and privileges transmitted to us from our fathers. They are made to feel the sacrifices of life and property our fathers submitted to for our free institutions, and their value will be appreciated.

But let them remain ignorant of what they cost, and they are in danger of ignobly selling their birthright.

*Ability to awaken interest in Studies.*—On frequent occasion to see, the teacher's success in progress of scholars, vitally depends. Children do practical value of learning, or its application to interests, and therefore will not do much to obstruct efforts of the teacher in this direction. They only possess the love of knowledge, but an enthusiasm in the minds of his pupils with the same appreciation of the very fact that he feels and expresses a deep interest in the great practical importance, will of itself operate. His very eye, and tone of voice, will awaken them and enliven every recitation. The ability to touch the thought and feeling, to interest as well as to overcome the difficult attainment, but has been attained by many, and is of indispensable importance, especially for the younger scholars. It does more than all things to prevent idleness and disorder, and to insure the highest progress of the instructors, who content themselves with merely reciting, aiming, by previous study, and by practical illustration, to make them understood and appreciated by the pupils. It is a question whether they have not sadly mistaken their

*School Government.*—This is intimately connected with the prosperity of our schools, and the future well-being of the teacher, enforced by discretion and kindness. The teacher must have the ascendent, or nothing will be done. If the school itself will be worse than useless. The teacher's wholesome rule, allowed in the school-room, will prevent them from becoming rebels against the laws of the State, and

The method of securing proper discipline is a matter of course, as from over-indulgence. It is of the utmost importance to the teacher, while maintaining his authority, should show to his pupils that he feels, an earnest interest in their progress, and should maintain dignity, and "control over his class" with them with uniform courtesy and kindness, avoid harshness and fretfulness, as that which tends directly to drive them from his minds from him and their studies. The true force of mind and character, than by any physical influence that leads his scholars to feel they are to be accomplished mainly by their own efforts, and that "order, Heaven's first law," is more than in the school-room. With this feeling, the teacher's very presence and look of the teacher inspire the pupils with a desire to conform to all the rules for their



true, may not be controlled by any array of mental and require the infliction of a prompt and adequate No safe substitute for "the rod of correction" in discovered since the time of Solomon. This rod, istered without the least vindictiveness, as a painful row than in anger"—as essential to the benefit of revention of the direful effects upon the school of It should be made evident throughout, that the very mplies law, and there can be no law without a enforcement of the rules is not arbitrary, but eing, nay, to the very existence of the school.

ELIS SANFORD, WILLIAM H. OSBORNE, NATH'L H. BROUGHTON.

### HANOVER.

s too frequent by far. This results in part from a in selecting them. It seems desirable that a good the same school at least two years; but in most of year, there have been two teachers successively m had just become acquainted with her pupils, and e retired to make way for another, and she in turn eeded the next term by a third. This is an evil ily remedied. A poor teacher engaged, should not t try again; and when the right one is secured, let ined.

e.—J. AIKEN, J. S. CROSBY, J. DWELLEY.

### MATTAPOISETT.

all the children in town a suitable education, to fit t, civil, moral and religious duties, there is a divided

porate capacity; the committee, as agents of the e teachers, and the children, have each a responsi- neglected without public as well as private injury. sort children will have.

fficient educator; so are the streets, especially at op, and the various places of amusement. If the ed, the education derived from sources external to e and mischievous.

ompels us to maintain schools, also requires that the e schools.

While it is the duty of the town to furnish money of all the children; while it is also the duty of the competent teachers, and to see that they are faithful of the teachers to qualify themselves for the business to be diligent and thorough in teaching, and to be moral and the practice of virtue; it must be obvious to the parents and guardians to see that their children go to school, and to co-operate with the committee and the scholars to perform their duty in acquiring knowledge.

We will not despair of better times coming, when our appropriations to (\$3,000) three thousand dollars for schools, and (\$1,000) one thousand for the support of the poor, and \$3,000 for poor, and \$1,000 for schools, as it now is. The State shows such appropriations as ours, but the revenue that our town may wipe out the district lines, give up the district lines, and constitute the town one school district, as many other towns have done.

*School Committee.*—WILSON BARSTOW, THOMAS NELSON, M.

### MARSHFIELD.

We have examined the teachers sent to us by the committees, and have given them certificates. Though we have many candidates, the practical difficulties attending a refusal are so great as to lead us, in some instances, to feel that we must give certificates to those whom our judgment would not approve. We hope, therefore, that the existing system of conferring certificates will be duly considered, whenever it is discovered that it has been intrusted to those who are inexperienced and inexperienced.

Heretofore the State appropriation has been added to the money raised by the town, and employed for general purposes in accordance with the statute. Your committee, however, imposed upon them by law, have used twenty-five per cent of the appropriation of the past two years to purchase and repair the buildings, which seemed most needed, and have employed the remainder in increasing the length of the schools. It is for these purposes that the towns, and commits the disbursement of the appropriation to the committee.

*School Committee.*—EBENEZER E. ALDEN, JR., ANDREW BOURNE.

### MIDDLEBOROUGH.

The schools are so interwoven in our affections, and so near our firesides, that we cannot be inattentive observers, and we have much interest in the instruction of our children. V



solicitude for the welfare of our children reaches the through improper channels. If a teacher should listen of parents, (each thinks his opinion important,) he is keeping a school which pleases none. This one is punishment. That one opposed to it. This one is in punishment for boys, but not for girls. Another is in small children, but not for large ones. Some advise certain cases for discipline to the committee—others in keeping children after school, others do not. the teacher's authority extends beyond the regular beyond the school-house premises, others do not. One for setting long lessons; another for setting short ones. Each time is devoted to this study, and another to that. Each should get up a spirit of emulation among the them take places in the class, choosing sides in spelling, &c.; others discard the whole. Some think their study too young; others, that it is delayed too long. It too long in this book, this class, or in this school, and for committee for not promoting him. Thus we might r. Enough, however, has been educed to show the dictating to teachers what particular course they ought ould make our best endeavor to secure a competent leave the whole matter of instruction to him. As try to harmonize our ideas, and labor with the teacher, m, even if he is not our particular choice. Above all, om too free remarks and criticism in the presence of ware how we side with them against the teacher. We e of the greatest sources of evil to our schools.

E. W. DRAKE, A. H. SOULE, I. F. ATWOOD.

## NORTH BRIDGEWATER.

the High School during the past year has enjoyed a high, and has, we believe, met all the reasonable expectations of the public. From the crude and confused condition at the opening of the school, to the gathering together of scholars of various grades and attainments, from the the arranging of studies so as to meet the wants of all, y accompanying every movement in stepping forth into from the experimental character of every plan adopted ization of the school, the second year has witnessed a the development of an order and system which not only

promise largely for the benefit and prosperity of future, but the efficiency and good effects of which are

To provide for a thorough and comprehensive course has been the desire and aim of the committee from the beginning of the school. The statute of the Commonwealth requiring High Schools, sufficiently indicates the scope of instruction of this character are expected to furnish, and it is our wish that it is the wish of the town, that our High School shall conform to this standard. To effect this the committee, before the opening of the present school-year, arranged a course of study for three years, embracing the principal branches necessary for college and the higher courses of professional education. The successful prosecution of the ordinary business pursuits.

The following is the plan as at present arranged, subject to such modifications as may be found desirable.

#### COURSE OF STUDY.

**JUNIOR YEAR.**—*Fall Term.*—English.—Arithmetic, United States History, English Grammar, Geography, Reading.

*Classical.*—Arithmetic, United States History, Latin Grammar.

*Winter Term.*—English.—Arithmetic completed, Algebra, United States History completed, Reading.

*Classical.*—Arithmetic completed, Algebra, Latin Grammar, United States History completed, Reading.

*Summer Term.*—English.—Algebra, Book-keeping, Physics, Rhetoric, Reading.

*Classical.*—Algebra, Latin Reader completed, Physical Science, Reading.

**MIDDLE YEAR.**—*Fall Term.*—English.—Algebra completed, Natural Philosophy, Rhetoric.

*Classical.*—Algebra completed, Cæsar, Greek Grammar.

*Winter Term.*—English.—Geometry, Natural Philosophy, Heavens, Physiology.

*Classical.*—Geometry, Cicero, Greek Grammar and Reading.

*Summer Term.*—English.—Geometry completed, Natural Philosophy, French.

*Classical.*—Geometry completed, Cicero, Greek Reader, French.

**SENIOR YEAR.**—*Fall Term.*—English.—Trigonometry and Conic Sections, of Literature, Chemistry, French.

*Classical.*—Virgil, Anabasis, Latin Prose Composition.

*Winter Term.*—English.—Surveying, Constitution of the United States, French.

*Classical.*—Virgil, Anabasis, Latin Prose Composition.

*Summer Term.*—English.—French, Geology, Natural Philosophy.

*Classical.*—Sallust, Homer, General Review.

Compositions and Declamations through the entire course.



ected that scholars will complete this entire course of the school. All such will graduate with the honors of and be entitled to a diploma from the committee.

Not close this part of their report without bespeaking for the generations who are pressing forward to a higher civilization, a liberal and well considered policy for its maintenance. The benefits which this school has in store for the community are of great value. From no local institution is destined to grow so powerful to mould and strengthen the community as this, none, if properly supported and conducted, will our country look with more honorable pride or earnest hope in the future. A measure which tends in the least degree to cripple the efficiency of the school should be regarded with apprehension. Proper aid and encouragement given to the policy will lead into the widest usefulness.

W. WOOD, F. A. CRAFTS, A. T. JONES.

## PEMBROKE.

expressed in relation to the condition of our schools, and in their welfare, has not, we regret to say, been the action of the town in diminishing the amount of money expended on the schools, has been no less injurious to the latter than to the former. Those who moved and voted for that measure, and careful and candid readers of our reports in previous years, if these, we attempted to show at length the advantages which may derive from the maintenance of good schools. They will fail in the course of years to exert upon it a most beneficial influence. They will tend to enhance the value of real estate, to increase its population and to elevate the character of the houses and lands that lie in the neighborhood of good schools. On that account, command a higher price. We know that property far away from school or academy and the main body of the population, per cent. of its real value on account of its retired

perhaps, how much the value of property depends upon the morals and education in the place where it is located. For instance, there was a certain farm, delightful for its location on the bank of a winding river, enriched with orchards, grain and grass, having every advantage that nature could give. When this was offered for sale, no respectable purchaser would give for it one-half of its worth. Why? Because education is easy. Education and morals were at a

low ebb in the neighborhood where it was located them, gave little, cared little, for educational or moral improvement. They were environed with settlements where ignorance, immorality, and the habits of drinking, rum-selling, Sabbath-breaking, and attendant vices, prevailed.

Is not all this reason enough why this beautiful spot is worth half its intrinsic value? Would any respectable man move and live there? Would even any vicious man, who might be inclined to purchase and occupy it with any one, we think, would be found willing to do it. Men exceedingly dislike to expose or endanger the virtue of their children, by bringing them into contact with a neighborhood, however vicious they may be themselves.

Some may think that what we have now said goes in favor of the importance of good morals, not of education, and is the strongest argument in favor of the latter. No so, however, for education and good morals are so closely connected that the one is beneficial to the other. They are two things which cannot be put asunder. If you neglect education, moral refinement, steady habits and integrity, and the property will decline.

If any one, then, would see his property rising in value from the increasing good habits and the high-toned character of the neighborhood around it, he must look with solicitude to the character of the neighborhood, and contribute in every way to their improvement, and become capable of giving a good education to his children. No matter if this increases his taxes, it will, in the long run, be to his pecuniary interest. Let a town be blessed with Free Schools, free from the dens of dissipation, and elevated in tone of mind. In such a town, property in houses and lands, and every kind will rise in value above par, and never shrewd sellers of property understand all this very favorable effects which the moral and education produce upon the property within its limits. Hence, when they come to sell it, in their public advertisements, how careful are they to state the place where the property is situated, its agreeableness, especially its proximity to excellent Public Schools. This shows that these good institutions in a town, and the property there, are so nearly connected and interlinked, that to neglect the one without doing injury to the other. A man whose worldly affairs are prosperous, his gains increasing, his property in value, there is no one thing which he can do, but to contribute to this end, than to let his voluntary contributions be



and the enlargement of educational privileges, and which tend evidently to raise and refine the character of the people.

To raise more money, and to do more for our schools, requires higher considerations than those which appeal to a love of wealth. Make your schools better, not only your farms, and houses, and real estate more valuable, but secure the highest good of your children. It is to secure them from the evils of ignorance and stupidity, of dissipation and the principle of idleness.

The parental hearts is, that their children may be successful in health, honor, reputation. But this wish can never be gratified unless they are brought up upon life without being well instructed in the principles of learning. We speak often of the lower classes of the population, and from the thought that our children should ever fall into the same ranks who compose them. Of many who belong to these classes, we have no doubt, and the various vices that follow in its train, but there is, perhaps, no word in the language better to describe the character of all of them, than that of ignorance. The want of education, or the want of intellectual cultivation, is more than all other causes to create these classes. They are not often left long in obscurity. It commonly happens that they rise, at least with wealth, and what are commonly the upper classes of society. It would be a hard matter to find a community where all have an equal amount of education and culture. Let the youth of any town—the poor and the well educated, and that petty pride of rank and family which so often less poisons the peace of every New England town, be greatly diminished, if not annihilated. If you have your children rising and holding an honorable position in the community, it is not toil to accumulate property for their use. Give them an education, controlled and sanctified by religious principles. It is the duty of the Common Schools, on which they principally depend, to do this. Make a more generous appropriation of means to the education of the poor. Enlarge these means to such an extent, at least, that every district three terms a year, of twelve or fourteen weeks, would probably be secured in our own town by the raising of a few hundred dollars to the amount raised the last year. There are cogent reasons for this, besides the strong ones which we have already said.

The small sum which we ask to increase the length of our school year, is dictated by economy. When a school has been in session eight or ten weeks, two weeks added to these, are

worth almost double that number at its commencement in examining the schools the past year, have had but little to regard the loss which the pupils have sustained in brevity. In some cases, it would seem that as soon as study is secured, and their interest in it awakened, they are ready to close, thus rendering the earnest efforts of the newly awakened interest of the scholar, abortive. It is not to be regretted, that when some weeks have been bestowed on the minds of the pupils into a state of preparation for a vigorous pursuit of their studies—when this first object is accomplished, the term allowed for the school should be nearly half over, and to see your children engaged and interested in their studies would be detrimental to call off and interrupt their studies. It is not be wise, then, to protract your schools, to allot too much length, so that the interest which is awakened in the pupils, their keeping may not be speedily lost, but serve to a great many weeks afterwards.

. But this suggestion, we are aware, will call for a large outlay of money. The town cannot well meet this additional expense, burdened with heavy taxes. Grant that it is so; yet it must be remembered that it is expense incurred to promote the best welfare of the children. To what better purpose can you appropriate property than the education of your children, or the improvement and prolongation of their lives where that education is principally obtained? If new schools are constructed, or old ones repaired, the town is commensurate with the amount required. And are not the cultivation and improvement of the immortal faculties of your children more important than the acquisition of worldly ways? If you say your annual expenses are already too large, might you not curtail the outlay of means that is expended upon the attainment of less important objects, that you may devote more upon the culture of the precious young minds committed to you? If they need a suit of clothes, and something perhaps for their persons, these more commonly you procure for them; but the adornings of the mind, or those imperishable treasures of knowledge, you are bound to provide means to secure to your children, rather than the temporary adornings of the body?

Notwithstanding the prevailing high prices and the expense, we see abundant evidence to convince us that the resources of the town are amply sufficient to afford four hundred dollars more for the education of the children a chance for a better education. Recently we have seen a young man obtain, within the limits of less than two hundred dollars, a penmanship obtain, within the limits of less than two hundred dollars for giving a few lessons in learning. A favorite adept in legerdemain comes

are ready and eager to give him almost a hundred the town, and nearly that sum in another, to witness various tricks and wonderful ventriloquism. From we should judge that before the winter closes, other will be expended in paying fiddlers and supplying satisfy the appetites of more than midnight dancers. these things in a harsh and condemnatory tone. We believe in amusements, in the necessity of incurring for them. But while this is done, perhaps but too punished and grieved to see a people parsimonious cultivation of the mind's immortal powers, without that is requisite to secure to their children that which they may be crowded down in the world, and classes. We do not believe the town is composed of

PHILIP P. DOGGETT, FRANCIS COLLAMORE, JULIUS CUSHMAN.

## PLYMOUTH.

enced teachers are fully aware of the imperfections of my practice, but know not how to escape from them, too difficult to form new ones. All methods, to be things, conform to the laws of the development of mind. In vain do we try to teach a child what it is understand, or to impart a knowledge of a subject, suitable method which is not in accordance with the natural of the learner. In both cases our labor is worse injury is done to the nature of the child. Teachers, aptitudes, are dependent upon the text-book for their subject, and it is very difficult, or rather impossible, the errors and supply the deficiencies of a poor

mentary books which we are obliged to use in our to be the result of an erroneous theory; a theory children begin to learn best by acquiring a knowledge y naturally begin in a very different way; by the ed facts which are pleasing to their untutored minds. eeps in, to co-ordinate their scattered knowledge, and enient form. Children have good memories and little n, and when we impose our scientific treatises upon t thing in their power—they commit them to memory y them, and delude themselves, as well as some of us, ey are advancing rapidly in learning.

These school-books, not being suited to the mind of the child, supply the wants of teachers. When a study of geography, is confronted with the definitions formed on the maps before him, and furnished with facts of the various governments in use among men, the child learns that his only resource is his memory, and that the teacher, finding ideas are out of the question, that which is set down in the book to be learned, is to be taken as it comes, and hopes that the good time may come, when he will have more understanding and the book less dullness ; and so the study goes on in vain. The result, however, would have been more pleasant and much more thoroughly, if the teacher had given only a general conception of the earth's form, and told stories about the wonderful things on its surface, and then become able by degrees to comprehend the science.

At a certain point in the course of study marked by the teacher, the teacher finds that his scholars must enter upon the study of grammar. One of the best books on the subject is placed before the class, and the teacher is required to make the scholars understand it. He perceives that grammar is the systematic structure of language, obtained from observation, and that his scholars, not having any knowledge of it, are not in a condition to appreciate this process. He asks the question, What is the use of grammar ? He explains it, but the question is still repeated ; and in nine cases out of ten he convinces his scholars that grammar has any use. He admits, however, that some important knowledge and discipline may be derived from this study as at last, after an immense cost of wearisome toil and priceless time, when it is too late, by the reflection that all this might have been obtained at a much cheaper rate, if the subject had been taught in a rational manner from the beginning. The proper way to think, to have the child commence writing simple sentences, and exercise ; increasing, by degrees, the complexity of the subject, subjecting it always to severe criticism, until the scholar, by experience in writing his own language, feels the want of a rule, and be prepared to begin the study of English grammar.

But in every department of instruction, we force upon the child interesting facts which they would rapidly assimilate if they were learning which they cannot digest. Nations advance to the highest civilization, by observing, first the simple, and then the more complex ones ; finally, they arrive at the point where the undoubtedly holds with children. They proceed



the abstract ; from miscellaneous knowledge to the  
ence ; and if we would teach them successfully, we  
order.

ES BURTON.

### PLYMPTON.

has been accomplished by the district system, let us  
as to suppose that no change can be made for the  
e made from that system established by our fathers  
e difficulties connected with the building and repair  
ufficient to condemn the system without looking  
of taxable property in the several districts varies so  
t may build a good house, and hardly feel the  
adjoining district, the building of a house would  
e tax. Bad as that is, the case is worse in regard  
-houses constantly need. Broken windows are to  
anging by one hinge, the fence needs repairs ; many  
and convenience of the school are needed, but the  
g been bankrupt ; to assess and collect a little tax  
as the sum to be raised ; so the prudential com-  
things remain about as they are, and turn over the  
ccessor in office, or, as the least of two evils, to  
m necessary to pay the expense from the school  
the school-house at the cost of the children's educa-  
system of Massachusetts, the schools are supported  
ble property in town. It is certainly just that the  
built and repaired at the town's expense. Then  
onged, and every one would pay in proportion to  
et system has been abolished by a majority of the  
d we know of no town which, having done so, has  
em.

LAH G. HAMMOND, CHARLES H. PERKINS, BARZILLAI E.

### SCITUATE.

It has long been our hope that vocal music might  
all the Public Schools ; and, at the risk of repeti-  
gain invited to the subject. The school law of the  
enumeration of branches to be taught in the Public  
al music " as one that should receive attention, so  
ay deem it expedient. Heretofore, it has been used  
scholars, and, generally, a few of the best singers



have been selected to do all the singing. It is not nearly every child may learn to sing; but many musicians affirm it. The same organs that produce the delicate inflections of good reading, may produce the most touching cadences of song. There are some persons whose musical talent was so small that the difference in pitch in the interval of the fifth, which they have acquired the art of expressing themselves with considerable taste and accuracy. A good reader is a good singer, and capability of execution. He is an excellent singer more is a "natural singer?" Why is it not argued that readers should be taught to read? If, then, nearly every child may learn to sing—say as many as may be able to sing it not our duty to give all the scholars of the Public Schools the privilege in gaining a knowledge of its principles? A town which has instructed most of the schools in vocal music is looking for his pay to voluntary contributions. This is hardly a good one. A grand concert of all the scholars given at the completion of the course of lessons in the singing school for adults has been taught by the same teachers with much success.

*Moral Culture.*—It is a matter of regret, and a source of shame to the youth of this place are far from what they should be. "Before the excess of democratic individuality has become a manner," it has been remarked that "it was rare in the least cultivated towns in the State, would pass an act of disrespect without respectful recognition; and the boy who committed such an act, his manners,' as it was called, would be looked upon as a disgrace to the community, and be reprimanded, if not punished accordingly."

Would not a little more of the spirit, not to say more of the principle, improve the present style of manners? A child is not but half educated. The statute makes it the duty of the Board upon the minds of children and youth "the principles of morality, and a sacred regard to truth, sobriety, industry, moderation, and temperance." To avoid sectarianism, which might rule all "piety" out of the schools? Is it not our duty that the moral culture of our children be attended to? If we load their heads with mathematics, let us plant good principles in their hearts, and surround them with fostering influences, that they may grow up into well-ordered lives? The oaths that are sworn about our school-houses disgrace the town infinitely more than in recitation ever could; and the public intoxication

tain the fair fame of her schools than the mental  
the dull ones combined.

UBERT BATES.

### SOUTH SCITUATE.

the past year to improve the morals of our schools, and  
against forming or indulging in evil habits. We  
our children a right moral, as well as intellectual start  
to make our schools, instead of being pest houses  
of corruption and death, safe places for our children to  
ought to make them such places, that parents may  
to them without constant and distressing fears, lest  
there be contaminated and ruined by evil influence  
We would have our teachers regard, particularly, all  
language in the mouths of scholars, as disciplinary  
and guardians of youth, should themselves carefully  
language, and from all low and vulgar language and  
parents themselves would discard all improper speech  
(among which we would reckon the use of tobacco,)  
by some proper respect to the Bible, the Sabbath, and  
ances, nothing would more directly improve the moral  
condition of our schools. The general appearance and  
of the school, will pretty clearly indicate to a careful observer,  
the parents of the scholars occupy in the scale of  
and refinement.

should be careful to exert, by counsel and example, a  
influence over their scholars. They are required, by law  
to be "of good behavior," but no one can teach this rightly who does not  
so behave. Teachers, above all others, should have  
examples. Their deportment, particularly in places of  
in public meetings, should be especially circumspect  
We would also have our teachers not over fond of mid-  
room dissipation. Apart from the general hurtful  
proceedings on the part of those who are looked up to as  
examples, no teacher has a right to render himself, or  
in school, through a previous night's hilarious vigils.  
We their nights to repose, and their days, together with  
efforts, to the school-room. Perhaps our advice on  
is not needed. We hope it never will be. Our feel-  
teachers should be morally, as well as intellectually,  
work of training and culturing the deathless mind for  
immortality.

DAVID B. FORD, JAMES SOUTHWORTH, FRANKLIN JACOBS.

## WAREHAM.

In making this report, we depart somewhat from years, speaking only of the schools as a whole, and abstaining from personal criticisms of teachers, for several reasons.

## 1. It is unnecessary.

Your committee can see no reason for presenting of the excellences and defects of the various towns; no advantage to be gained, no truth to be served, no loss by such a course on our part, while the teaching anxiety and fear of a public exposure, and the odious nation. Not all have been alike successful; not degree the approval of the committee, and to speak needlessly to afflict, where no good could possibly result.

If any person to whom the duty of selecting teachers of our observations and opinions, we are ready to impart information privately, in such a way as to make it more without injuring the reputation and prospects of the other circumstances would be more successful; for recommendations for the future, we think we can better in a private letter, than in a public report.

## 2. It is oftentimes unjust.

Committees are fallible as well as teachers. They do not stand all the requisites of a good school, or appreciate might the difficulties of the teacher's position. If correctible; if their judgments were never warped by prejudice, imperfect knowledge of circumstances; if they were not reports by personal interests, and their visits were of time and length to examine thoroughly into the conditions and qualifications of teachers, there would be less force in their reports would be far more valuable.

"To err is human," and committees are liable to errors of criticisms upon the teachers and schools under their and censuring, where, if the whole truth were known, might be entirely reversed. In this way, very often a teacher is inflicted, and the hopes of some struggling life more we err at all, far better err on the side of silence than where no comparisons are made and no criticisms in.

## 3. No other profession is subject to such an annoyance.

The physician, the lawyer, the clergyman, even, are not an ordeal. To pass under the critical review of a committee of consultations are secret, and before whose dread tribunal



F. CLARY, GEO. S. ALEXANDER, H. M. KNOWLES.

we have before : that in no better way can we promote our schools than by following—in the spirit and in laws, which are the result of the highest wisdom and lightened Commonwealth. And this motive is what they so often and dwell upon their meaning. Says “The tenure by which our liberties are held can never keep pace with intellectual cultivation.” We hope

that this same sentiment may be observed, n youth; and that the moral, intellectual, and young may be made to harmonize with each other upon the highest plain of active life. And let the source of moral training is the family, and the deportment of family and parent lies the main. The teacher stands in place of the family's parent of the community, for a time; therefore principles of a good character. When that our constitution of government had discussed experiences of all modern nations with no Franklin, rose and made a motion that daily that assembly for their success. The great man what was the greatest thought that ever occurred greatest thought I ever had, or can have, is a God." Now if we wish to succeed as the good we wish to have as good an influence on the character did on the character of the nation, we must follow

*Superintendent.*—SIMEON J. DUNBAR.

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## BARNSTABLE C

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### CHATHAM.

We would suggest the following hints for attention be paid to spelling and reading, and to the State, and country; that all the schools be properly fixed; that small children be not required to be taught not to be noisy when they change positions; be paid to their natural wants, lest decency and greater regard be paid to physical and moral education of the greatest importance. Unless more physical training of our children, we shall soon find it is a great thing to have "a sound mind in a sound body." The only way to secure this is to attend to the physical. Their moral education is of still greater consequence. Their heart must be rightly educated. We do not wish to introduce sectarianism into our Public Schools; but we do wish



children should be taught to reverence God, and fear an  
 their parents, guardians, and instructors; to obey magis-  
 he aged; to be truthful, honest, humane, benevolent, etc.  
 o much neglected in our Public Schools, and left almost  
 reside and the pulpit.

—LEVI ATWOOD, WILLIAM H. RICHARDS, EPHRAIM A. TAYLOR.

## FALMOUTH.

*isms.*—We do not propose in this report, to subject each  
 to a personal criticism, pointing out particularly their  
 defects. This old method might gratify the curiosity of

It might, in some instances, seem to serve the teacher  
 sion. Committees eagerly seize upon such report, in  
 s sufficient to aid in the selection of teachers. But an  
 t not always to be gratified. Teachers are supposed to  
 sions as are of use to them, by the committee, during  
 f whose office work is to aid, in every possible way, the  
 happy to give all the information in our power, to any  
 ee, respecting any teacher whom he may wish to employ.  
 orth tenfold more than any meagre statement penned for  
 sensitive teacher, who has the elements of prospective  
 judicious criticism, be induced to leave the profession.  
 persons are subjected to such severe, public, personal  
 why should they be, more than others? If there was  
 derived from such a report, any to teachers or scholars,  
 give our influence still to the old custom. But, after  
 ought, we are firmly in the conviction that it is a custom  
 the breach than in the observance," and should never be  
 in extreme cases. The voice of wisdom cautions parents  
 a disparagement of the teacher in the presence of their  
 it tends to encourage insubordination and disrespect.  
 we, in a still more effectual way, create the very evil  
 and blaze abroad what we would not have parents do

*f Teachers.*—The character of our schools is determined  
 teacher. A good teacher will generally secure a good  
 is, to a great extent, the scholars will become. Is he  
 rgy in teaching? So are they in learning. Is he accu-  
 ? So are they in recitation. Is he respectful in his  
 hem? So are they towards him. Whatever goes to  
 of his excellence, will be measurably repeated in them.  
 ve would have our children become, should be our mode



in the choice of teacher. On the other hand, a poor teacher brings any school down to his own level. Is he inattentive, slack in discipline, indifferent to his work ; how soon vices exert their deleterious influence over the school, worse than no school.

It should be the first point to secure a good teacher. There are but few really good teachers. Not every teacher is a good teacher. Some are wholly dependent on text-books, asking questions aside from those printed in the books ; they do not explain, and illustrate, and mould a subject, till it is clearly understood by the pupil. They are not masters of their position, and lack the proper qualifications for the office. They may go through the duties, and have a fair reputation as scholars ; and possess some of the essential elements of a good teacher. The above is especially true of the study of grammar. In this study, most emphatically, the importance of the teacher's being at home in his work is felt. He is able to impart his knowledge by free and easy conversation, which is ordinarily considered dry and dull, at once becomes interesting and lively. The chief object of the teacher is gained, in that the pupil thinks for himself, to use his own faculties, to acquire knowledge by study. The scholar should be taught self-reliance ; not to depend on text-books, yet not to be too reliant upon them, but to render them more thoughtful, and reverent, and so to secure happiness and usefulness in after life.

*Study.*—This is very desirable in connection with the study of grammar, for greater efficiency and despatch in the teacher's daily work, and his exercises be anticipated, and reviewed. However good a teacher cannot afford to enter the school-room without knowing what he is to do there. The teacher should also study as a scholar, for the sake of gaining information. The mere giving of instruction in the various branches of study, is but a small and much the easiest part of the teacher's duty. Habits are fast forming in the growing mind, and like the young sapling, may be easily made straight. Should the teacher may better mould these habits than the teacher ? To guard against the influence of bad influences, to exert good ones, to give more to the habits of integrity, punctuality, industry and truthfulness, to do the many things which should not be considered subordinate to the instruction, and should, if possible, go hand in hand with the instruction, symmetrical development of the youthful mind. But the teacher, the work, the teacher no less than the scholar must study, and must draw of knowledge from which continually to draw illustrations. He should not depend entirely on text-books, lest the study become tedious, and its duties irksome. Let the exercises be

ments, so that the scholar may be interested and enter-  
pass quickly and pleasantly away. Thus the scholar  
suit of knowledge. Pleasantness is associated with  
g is done towards acquiring a habit of punctuality;  
absent or tardy while the school-room is to him a

o like to see good order in the school-room. Not  
e made without it. Fortunate is the teacher who has  
securing it without the use of the rod! But if it can-  
t the rod, it had by all means better be used. But,  
punishment, it is expected that the teacher will use  
age in passion, or strike indiscriminately upon the  
s hazard the risk of disfiguring or disabling the child.  
at the teacher, in case of insubordination on the part  
ly confer with the parents or guardians, and solicit  
r. This step, if taken in a conciliatory and judicious  
persede the necessity of referring the case to the  
uch a course be taken, and not secure the object, the  
rly before the committee. And while the committee,  
extreme indiscretion, are with the laws bound to favor  
ves us great pain to witness any seeming want of  
s the scholar, or courteous bearing toward the parents.  
instruct and mould the character of our children is  
ufficient weight of character to act wisely in such

discipline is important, inasmuch as it has much to do  
al character, and shaping the destiny of the scholar.  
government blunts the moral sensibilities, and prevents  
e finer feelings and the more generous impulses of the  
ference in government is the difference of the motives  
to influence the decisions of the pupils, to restrain  
he rules, and to stimulate them to effort.

emarked that our District Schools have a demoralizing  
ildren learn of each other much that is bad. They  
restraints of the fear of God; and hence the desirable-  
e employed who will exert an influence to counteract  
ake our schools, not a place where we fear to have  
place where we can feel that they are safe. We hope  
tant when religious instruction, example, and influence  
ught as worthy of prominence in the school education  
, as parents, wish the teacher to be a help in carrying  
children. The mere culture of the intellect, without  
culture, and the balance and weight of character which





the wages of teachers, and our schools would be more secure teachers educated for their work; in service, as the present arrangement does not. Schools would soon come up to a level with schools elsewhere, where the new system has been in long and the people would not be hired for any money to try." It needs only to be fairly tried, and it will be the prosperity of the town.

*Town System.*—The ones more usually urged are the

*District System.* Doubtful, as stated above. The district system is a waste. To select the teacher and assign him his task. It is now done by a class of persons, who select from a circle from which to make selection. Often that is the only other interest than that of disposing of an interest to favor a friend, sometimes any one who is interested, being thus started wrong, goes badly through, and hence a great waste. Let there be some dozen districts, and let first-class teachers be put in them, and a great improvement on the district system do we not, in expending five dollars, the district system ought to cost more than it now costs. I tell on the future of our children. But will not the town system, by the town system, secure larger and better results to us, is the only proper basis of estimating the results we apply in our business relations.

*Liberties.* Liberties to do what? If we want a man to do the matter to a person qualified for it. We do not set a man to work who will make it for the least. We go to the tailor and jeweller on the same principle, and our daughters go to the dressmaker and milliner. Liberties. On such points we are sensitive and sensitive to the education of our children, the shaping of the mind and the heart, it is no matter; money becomes now a matter of economize, keep things in our own hands. To have skilful, experienced hands, is to be deprived of our desire the power of selecting teachers. Yet, we do not let the charge of ill-success should rest upon our hands are in a great measure tied.

WHEATON, JAMES B. EVERETT, DAVID BRIGHAM.



## ORLEANS

The attention of parents has been called to the influences of speaking disparagingly of teachers, particularly in the presence of their children. Go farther and say, never speak disparagingly of a man, in the presence of any one that attains influence can the committee have to complain of the influence they can exert in maintaining good order in the school. Remarks in relation to them, like the following, of scholars? "The committee are a nuisance in the way of education; they are of no use. I move in town meeting that the election of teachers be without them." That such remarks have been made. If you ask some parents the reasons why they do not come more regularly, they will answer,—“ Oh! I don't care about learning anything but play. I will just as well stay at home as to go to school to a teacher.” In nine cases in ten, such parents are doing for themselves, but take the child's word for it. The teacher is not fit to teach school. Now if we could get their children at home, instead of being in school, we would compel them to attend school regularly. We would encourage them in their lessons at home, to take an interest in their studies and like to attend

*School Committee.*—JONATHAN HIGGINS, JOSHUA

## WELLFLEET

But our present system of Mixed Schools is greatly regretted by the alternation of males and females as a system. It requires at least one term to get acquainted with each other. Each teacher has his own system. One is inclined to urge by fear; another, by kindness. The teacher to be monarch of the school-room. This is his view of school government. This is the number of pages learned; another succeeds him. Thus the scholar is scolded one term, and the next he finds himself under a sort of military rule. The very leniently interpreted by the judge of the law.

The line of demarcation between sovereign and subject is dimly seen by the scholar as by his parents. It is made plain by actual trial where the new teacher places

STONE, SYLVESTER HINCKLEY, M. H. DILL.

eral aid of the Commonwealth in maintaining our  
 cannot too earnestly urge upon parents the import-  
 ant endeavors to secure the constant attendance of  
 and do much in exciting in their children's minds a  
 surging their diligence and punctuality, and thus  
 able work which they have to perform. From the  
 we expect much; and, if there can be suitable  
 children, committee and teachers, we hope ere long  
 ard, which shall not only reward us in the results  
 Board of Education, that the liberality of the  
 well bestowed.

ILIAS AMOS, WILLIAM H. SIMONS, NATHAN S. POCKETT.



## DUKES COUNTY

## CHILMARK

Those scholars who are always found in hours will, invariably, be in advance of the day provided the capacity of the former be equal to the loss of one day is actually the loss of more than the application. While the scholar is absent, he is connected not only with the lesson of the day, but with a thorough understanding of his studies at the whole term is impeded, he becomes discouraged by ignorance of the principles with which he has spent the day's absence, and perhaps is obliged to begin securing a thorough education.

*School Committee.*—JOHN W. MAYHEW, AUSTIN

## EDGARTOWN

The money raised for schools is, unlike other money, literally an investment for profit. It has no expectation of accruing interest or usury. Money expended for schools will yield thirty, fifty, or more per cent. If a parent wishes to make some provision for his child, he is assured of their future welfare. If he leaves his child at home, he merely provides for their animal nature, which may be, of the lowest passions. Even such a provision, leaving the heir in worse condition to rely on than he had been destitute of material patrimony. Education, once acquired, becomes a permanent possession, and the fortunate possessor, but diffusing its results throughout the community.

"Economy," says a Massachusetts statesman, is not the amount of money expended, but by the use of economical to use much or extravagant to use little. This sentiment is particularly applicable to education. It is economical to use much and extravagant to use little. Retrenchment, by decreasing the amount

the light of intelligence from the minds of those  
a you for the privilege of receiving it.

nittee feel it to be a duty to call attention again to  
laws relating to truancy was adopted and approved  
and two officers were chosen by the town for the  
requirements. An effort to that end was made in  
think, some good results. Still, considerable remains  
tion before the evil can be wholly removed. It is  
town choose two such officers to serve during the  
to enforce the provisions of the law so far as may

ndred evil prevails among us to a shameful extent.  
school before its close, and also tardiness, or coming  
general as to require correction. This practice is  
y the parents to such an extent that some decided  
ed for its removal. The evils consequent upon it

Scholars coming in after the recitations of their  
ad, and often after they have closed, or being dis-  
times equally injurious to their progress in the  
be otherwise than highly detrimental to the whole  
se more immediately concerned. The committee,  
f the last school-year, required the teachers to pre-  
rents requesting dismissal, or excusing tardiness, in  
a of the extent of the evil. The accumulation of  
multitudinous piles of papers, was painful to behold.  
things, two courses suggest themselves as remedies :  
reject all communications of that kind, or for the  
nishing them to their children unless absolutely  
er course is pursued, a great improvement in this  
nably anticipated.

ed by their Creator with certain inalienable rights,  
pper training of the mind with reference to future  
parent squander a legacy, left in trust for his child,  
the merited condemnation of the community. Far  
child, either by connivance or positive command, of  
iving the instruction and discipline afforded by the  
provided at the public expense.

WIN MAYBERRY, JOHN PIERCE, FREDERICK P. FELLOWS.

### GOSNOLD.

res of our township exclude several children almost  
lic School appropriation, unless at the expense of  
ome.



The township is composed of several islands, to enable the children of more than one island and board at home.

Of the nineteen children between the ages of May, 1865, twelve were living on Cuttyhunk, on Pune, and the remaining one on Naushon.

The only Public School that has yet been on the island of Cuttyhunk. The school was half months during the present school year, summer and fall term, a period of time less committee.

We would suggest, that henceforth there be appropriation made to those families who cannot school without the expense of boarding them impracticable to organize a school within the distance said families live, when such families have faith in the education of said children at their own firesides, or to send them away from home.

*School Committee.*—B. B. CHURCH, F. S. ALLEN.

## NANTUCKET CO

### NANTUCKET.

Education is not merely the amount of fact stored from day to day,—although the important knowledge should not by any means be overlooked, in its broadest sense, is the combination of intellectual and physical culture; it is the development of the mind and the cultivation of true excellence of character. The principles in the heart that will lead to the practice of these principles is a preparation for the faithful and conscientious life. We have, competent and devoted teachers, realizing the weight of responsibility that rests upon them, a sacred trust is committed to their care, are earning the minds of the pupils under their charge, promoting good and truth. But can they accomplish this without the aid of the parents? Do parents fully realize the power of their influence? It tells upon the heart of the child for good or

just remarks concerning the teacher, or questionings  
ht to exact obedience on certain points, is that child  
hool and cheerfully and promptly perform the duties  
not such who cause the greatest amount of trouble  
not such a course disheartening to the teacher and

We do not forget that there are very many parents  
d their duty to their children, and are conscientiously  
te their moral and intellectual advancement, and it is  
look for sympathy and encouragement. We are well  
readbare subject, but we think its importance cannot  
that parents, remembering "how much of the moral  
during form to character is lost for want of combined  
y every means in their power, to make home influ-  
good. Parents are not sensible how much they can  
requently visiting the schools. Scholars are inspired  
tivity by the interest you evince in their progress,  
red and encouraged by your presence.

JOSEPH MITCHELL, 2d, CHARLES P. SWAIN, REUBEN P. FOLGER,  
H MAESHALL, SAMUEL D. HOSMER, PHILIP MACY, ANDREW  
SWORTHY.

The first of these is the...  
The second is the...  
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The fortieth is the...  
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The forty-sixth is the...  
The forty-seventh is the...  
The forty-eighth is the...  
The forty-ninth is the...  
The fiftieth is the...

The first of these is the...

CHAPTER IV

The first of these is the...  
The second is the...  
The third is the...  
The fourth is the...  
The fifth is the...  
The sixth is the...  
The seventh is the...  
The eighth is the...  
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The forty-sixth is the...  
The forty-seventh is the...  
The forty-eighth is the...  
The forty-ninth is the...  
The fiftieth is the...



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## N ABSTRACT

RETURNS MADE BY THE SCHOOL COM-  
THE SEVERAL TOWNS AND CITIES IN  
EALTH, FOR THE SCHOOL YEAR 1865-6.

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North Andover, . . .	2,622	1,830,829	10	373	393	295	341	1	44	498	1	9	4	6	4	9
Rockport, . . .	3,367	1,279,717	9	655	663	540	562	1	192	667	-	13	3	11	3	17
Rowley, . . .	1,196	511,171	6	232	234	180	190	8	35	270	1	5	1	6	1	6
Salem, . . .	21,197	16,192,359	51	2,828	3,220	2,130	2,357	-	72	3,921	7	55	7	55	10	57
Salisbury, . . .	3,609	1,680,089	14	639	620	475	461	46	60	751	2	12	7	7	7	11
Saugus, . . .	2,006	1,300,074	9	390	356	306	294	2	24	429	-	9	-	9	-	12
South Danvers, . .	6,050	3,819,766	18	1,147	1,169	935	930	8	80	1,483	5	19	5	20	6	21
Swampscott, . . .	1,619	1,449,859	6	278	314	285	263	-	23	291	1	5	1	5	1	9
Topsfield, . . .	1,212	687,610	5	188	210	137	162	12	34	227	-	5	-	5	-	6
Wenham, . . .	915	463,558	5	186	206	153	176	15	29	209	-	5	-	5	-	9
West Newbury, . .	2,088	940,919	11	440	423	363	338	25	33	461	-	11	-	11	-	16
Totals, . . .	171,192	\$80,393,467	516	29,465	29,214	23,175	23,270	408	2,058	34,118	59	566	114	526	133	658





North Andover, .	57.10	32.13	30.03	8.03	30.13	24.02	3,000.00	-	-	211.00	100.00	38.00	\$98.00
Rockport, .	39.02	39.03	78.05	8.14	46.33	24.85	3,400.00	-	-	252.60	-	-	-
Rowley, .	24.12	16.10	41.02	6.17	75.00	20.50	1,200.00	-	51.00	77.00	-	-	-
Salem, .	306	255	561	11	111.16	34.74	35,218.82	-	-	60.00	4,000.00	200.00	-
Salisbury, .	57.08	56.17	114.05	8.04	48.56	20.33	3,500.00	-	-	125.00	-	-	-
Saugus, .	45	45	90	10	-	28.81	3,205.96	-	-	127.00	-	-	-
South Danvers, .	91.12	91.13	183.05	10.03	89.88	27.12	10,708.00	-	-	540.00	2,000.00	120.00	335.17
Swampscott, .	28.10	36	64.10	10.15	83.33	22.50	3,000.00	-	-	125.75	-	-	-
Topsfield, .	22.10	18.15	41.05	8.05	-	22.00	1,000.00	-	-	50.00	-	-	-
Wenham, .	18.10	15.10	34	6.16	-	24.80	1,000.00	-	-	12.00	-	-	-
West Newbury, .	33.10	38.05	71.15	6.06	-	25.66	2,014.41	-	-	89.75	-	-	-
Totals, .	4.14	4.10	9.04	-	\$64.97	\$25.79	\$226,480.23	\$871.00	\$6,836.67	\$221,735.15	\$12,052.80	\$1,320.33	



## SUFFOLK COUNTY—CONCLUDED.

SUFFOLK COUNTY—CONCLUDED.

TOWNS.	HIGH SCHOOLS.				INCORP. ACADEMIES.				UNINCORP. ACADEMIES AND PRIVATE SCHOOLS.				Town's share of School Fund received in 1865—how appropriated.
	Number.	How supported.	Length.		Salary of Principal.	Number.	Av'ge No. of Scholars.	Aggregate p'd for Tuition.	Number.	Av'ge No. of Scholars.	Aggregate p'd for Tuition.		
			Mos.	Days.									
Boston, . . .	1	Taxation, .	10.09		\$3,250 00	*	1		61	1,868	\$190,189 00	\$5,310 30	Schools.
Chelsea, . . .	1	" .	10		2,300 00	1	1	1	3	100	2,000 00	564 60	"
North Chelsea, . . .	1	" .	—	—	—	1	1	1	1	1	—	90 18	"
Winthrop, . . .	1	" .	—	—	—	1	1	1	1	1	—	94 65	"
Totals, . . .	2		1		\$5,550 00	1	1	1	64	1,968	\$192,189 00	\$6,059 73	

ESSEX COUNTY

Newburyport, . . .	1	140	1,500 00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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\* Some 3,800 children are educated in Charitable Institutions.

† Average.



## MIDDLESEX COUNTY.

TOWNS.	Population - State Census, 1865.	Valuation—1865.	PUBLIC SCHOOLS.	No. of Scholars of all ages in the Public Schools.		Average attendance in the Public Schools.		Persons under 5 years of age who attend the Public School.	Persons over 15 years of age who attend the Public School.	No. in the State between 5 and 15 years of age May 1, 1865.	NO. OF TEACHERS IN PUBLIC SCHOOLS.				Number of different persons employed as Teachers in Public Schools.	
				In Sum'r.	In Winter.	In Sum'r.	In Winter.				Males.	Fem.	Males.	Fem.	Males.	Fem.
Acton,	1,660	\$854,719	11	851	407	315	355	16	74	386	-	11	1	10	1	19
Ashby,	1,080	508,393	10	215	269	181	226	15	71	165	-	9	1	10	1	12
Ashland,	1,702	632,632	9	299	195	241	167	11	16	346	-	9	1	7	-	11
Bedford,	820	489,123	6	153	158	123	131	6	20	158	-	6	-	6	-	8
Belmont,	1,278	8,521,429	7	201	240	188	188	3	24	250	-	6	1	6	-	8
Billerica,	1,808	1,086,563	11	303	329	251	248	16	14	330	-	11	-	11	1	16
Boxborough,	454	238,592	4	97	104	86	93	9	22	107	-	4	1	4	-	6
Brighton,	3,859	8,812,694	12	874	789	644	635	5	71	751	-	8	8	15	4	23
Burlington,	594	408,136	5	112	92	84	74	6	8	104	-	4	4	4	-	6
Cambridge,	29,114	25,897,971	80	6,315	6,184	4,630	4,652	-	479	6,989	-	11	11	98	12	6
Carlisle,	629	354,122	5	122	143	102	117	6	23	129	-	5	1	4	1	112
Charlestown,	26,398	18,292,544	41	5,934	6,025	4,120	4,200	2	178	4,951	-	9	9	88	11	8
Chelmsford,	2,296	1,546,508	12	405	471	318	385	25	92	491	-	10	10	10	11	110
Concord,	2,231	1,658,881	19	886	410	318	385	25	92	491	-	10	10	10	11	110

Sherborn, . . .	1,049	869,539	8	221	222	289	195	15	40	210	1	9	6	3	8	1	12
Shirley, . . .	1,217	676,275	9	231	232	203	195	16	46	243	1	9	6	3	3	8	13
Somerville, . .	9,366	5,683,244	29	1,982	2,137	1,534	1,616	17	90	1,938	5	32	5	32	5	5	38
South Reading, .	3,245	1,778,786	12	658	670	500	474	26	59	697	1	12	1	12	1	1	13
Stoneham, . . .	3,299	1,333,637	11	674	538	529	429	13	34	573	1	11	1	11	2	1	18
Stow, . . .	1,537	764,278	7	307	346	241	274	22	52	300	1	7	2	6	2	2	10
Sudbury, . . .	1,703	1,052,778	7	337	304	243	184	17	62	250	1	6	1	7	1	12	12
Tewksbury, . .	1,801	747,624	7	220	229	188	184	10	26	264	1	7	1	7	1	21	21
Townsend, . . .	2,056	737,352	14	367	443	304	376	9	62	379	1	14	2	12	2	9	9
Tyngsborough, .	624	348,137	8	142	128	115	101	30	14	102	1	7	1	7	2	28	28
Walham, . . .	6,897	5,552,109	21	1,235	1,255	1,055	1,075	32	35	708	3	10	3	10	3	3	11
Watertown, . .	3,779	2,757,957	13	721	687	582	562	1	13	239	1	7	3	9	3	11	12
Wayland, . . .	1,138	658,073	7	219	205	197	177	31	35	545	3	9	3	7	3	16	16
W. Cambridge, .	2,760	2,833,684	11	528	533	444	465	5	34	285	1	10	3	8	1	5	5
Westford, . . .	1,568	908,438	10	268	312	221	204	7	32	236	1	6	1	5	2	13	13
Weston, . . .	1,231	1,103,274	7	214	222	182	188	13	20	190	2	10	2	11	2	30	30
Wilmington, . .	850	563,181	5	180	171	138	135	1	48	481	2	25	2	25	2	2	2
Winchester, . .	1,969	1,455,772	11	427	404	361	346	1	116	1,504	2	25	2	25	2	2	2
Woburn, . . .	7,002	4,980,549	23	1,439	1,315	1,236	1,158	13	116	1,504	2	25	2	25	2	2	2
Totals, . . .	220,618	\$155,324,723	699	45,906	45,869	34,562	34,995	670	3,836	44,695	89	843	130	812	148	1,103	1,103

MIDDLESEX COUNTY—CONTINUED.

TOWNS.	AGGREGATE LENGTH OF THE PUBLIC SCHOOLS.				Average length as returned.	Average wages of Male Teachers per month, including the value of board.	Average wages of Female Teachers per month, including the value of board.	Raised by taxes for schools, including wages of Teachers of board, fuel, care of rooms, for the school-year 1885-6.	Amount of board, fuel, &c., voluntarily contributed for Public Schools.	Expense of Superintendence and printing School Reports.	Amt. of School Funds, the income of which can be appropriated only for the support of Academies and Schools.	Income from same.	Income of Funds, as of Surplus Revenue, appropriated to schools, that may be so appropriated or not.
	Summer. Mo. Days.	Winter. Mo. Days.	Total. Mo. Days.	Total. Days.									
Acton, . . .	45.05	82.10	77.15	77.15	7.10	\$50 00	\$28 18	\$2,000 00	-	\$95 00	-	-	-
Ashby, . . .	26	29.15	55.15	55.15	5.11	55 00	20 80	1,800 00	\$40 00	87 00	-	-	-
Ashtand, . . .	34.05	26	60.05	60.05	7.10	-	25 25	1,900 00	-	65 00	-	-	-
Bedford, . . .	27	17.15	44.15	44.15	7.09	-	24 50	1,200 00	-	70 00	-	-	-
Belmont, . . .	19.05	60.15	70	70	10.10	95 24	84 13	3,400 00	-	210 00	-	-	-
BillERICA, . . .	34	37.01	71.01	71.01	6.02	-	20 95	1,800 00	-	118 00	\$21,000 00	\$1,260 00	-
Boxborough, . . .	11.05	10.10	21.15	21.15	5.10	-	21 00	500 00	15 00	24 00	-	-	-
Brighton, . . .	66	66	132	132	11	100 00	30 13	10,558 13	-	412 00	-	-	-
Burlington, . . .	24	9.10	33.10	33.10	7.18	65 00	80 00	800 00	-	-	-	-	-
Cambridge, . . .	147.18	153	800.18	800.18	10.04	160 03	44 69	71,984 61	-	1,018 00	8,000 00	860 50	-
Carlisle, . . .	11.10	12	23.10	23.10	28.00	28 00	22 11	556 33	-	46 50	500 00	30 00	-
Charlestown, . . .	186.11	252.03	438.14	438.14	10.14	140 00	40 34	53,486 84	-	190 00	5,000 00	836 00	-
Chelmsford, . . .	34.03	43.19	78.02	78.02	6.10	43 62	24 05	2,500 00	-	195 00	-	-	-

Reading, . . .	60	43.18	103.18	8.15	95.00	21.63	4,200.00	85.00	269.00	111.49	5,000.00	—	300.00	—
Sherborn, . . .	31.17	20.08	52.05	8.02	70.00	21.63	1,200.00	20.00	111.49	129.00	6,000.00	—	360.00	—
Shirley, . . .	31.12	33.03	64.15	7.01	33.86	22.86	1,800.00	—	129.00	600.00	—	—	—	—
Somerville, . . .	130.10	181.05	311.15	10.15	122.79	39.70	24,800.00	—	600.00	208.00	—	—	—	—
South Reading, . . .	58.15	58.05	117	10	85.71	27.50	5,000.00	30.00	250.00	111.70	—	—	—	—
Stonham, . . .	49.13	49.10	99.03	9.03	100.00	29.00	4,200.00	—	250.00	—	—	—	—	—
Stow, . . .	19.10	21	40.10	5.15	40.00	28.71	1,300.00	90.00	111.70	—	—	—	—	—
Sudbury, . . .	29.08	20.13	50.01	7.17	—	24.44	1,500.00	—	117.49	376.50	—	—	22.59	—
Tewksbury, . . .	26	27.08	53.08	7.13	—	21.50	1,200.00	46.00	123.75	—	—	—	—	—
Townsend, . . .	30.11	38.07	68.18	5.04	52.50	23.60	2,000.00	56.00	128.00	—	—	—	—	—
Tyngsborough, . . .	20.02	17.08	37.10	4.10	46.17	27.12	700.00	12.00	52.68	654.00	—	—	111.11	—
Waltham, . . .	97.10	115.10	213	10.10	114.29	32.70	10,696.45	—	313.75	—	—	—	—	—
Watertown, . . .	62.04	65.13	127.17	9.15	133.33	43.07	9,275.50	—	190.00	—	—	—	—	—
Wayland, . . .	27.05	23.15	51	7.06	—	25.15	1,350.00	42.00	125.25	200.00	—	—	12.00	—
W. Cambridge, . . .	55	55	110	10	116.66	37.26	7,510.00	210.00	206.00	5,354.00	—	—	321.24	—
Westford, . . .	26.10	30	56.10	5.13	38.00	22.11	1,400.00	70.00	125.00	16,000.00	—	—	900.00	—
Weston, . . .	32	32	64	9.02	60.00	25.64	2,000.00	—	120.00	—	—	—	—	—
Wilmington, . . .	17.05	15.10	32.15	6.11	—	21.40	750.00	—	53.60	—	—	—	—	—
Winchester, . . .	50	49.10	99.10	9.01	83.76	25.33	4,300.00	—	—	—	—	—	—	—
Woburn, . . .	78.13	65	143.13	8.12	136.24	32.90	9,500.00	500.00	421.55	16,000.00	—	—	960.00	—
Totals, . . .	4.04	4.09	8.13	—	\$79.32	\$27.76	\$403,432.50	\$1,448.50	\$12,967.66	\$168,134.29	\$9,396.75	—	—	—



## MIDDLESEX COUNTY—CONCLUDED.

MIDDLESEX COUNTY—CONCLUDED.

TOWNS.	HIGH SCHOOLS.				INCORP. ACADEMIES.				UNINCORP. ACADEMIES AND PRIVATE SCHOOLS.				Town's share of School Fund received in 1863—how appropriated.
	Number.	How supported.	LENGTH.		Salary of Principal.	Number.	Av'ge No. of Scholars.	Aggregate p'd for Tuition.	Number.	Av'ge No. of Scholars.	Aggregate p'd for Tuition.	Town's share of School Fund received in 1866, according to No. children between 5 and 15 May 1, 1865.	
			Mos.	Days.									
Acton, . . . . .	1	Taxation, .	—	4.10	\$234 00	1	—	—	2	55	\$175 00	\$132 90	Schools.
Ashby, . . . . .	1	—	—	—	—	1	—	—	1	—	—	99 75	"
Ashland, . . . . .	1	—	—	—	—	1	—	—	1	—	—	126 90	"
Bedford, . . . . .	1	Taxation, .	—	10.10	1,000 00	1	—	—	2	20	1,500 00	98 70	"
Belmont, . . . . .	1	—	—	—	—	1	—	—	1	—	—	112 50	"
Billerica, . . . . .	1	—	—	—	—	1	50	\$300 00	1	—	—	124 50	"
Boxborough, . . . . .	1	Taxation, .	—	11	1,300 00	1	—	—	1	—	—	91 05	"
Brighton, . . . . .	1	—	—	—	—	1	—	—	1	—	—	187 65	Town Treas.
Burlington, . . . . .	1	Taxation, .	—	10	2,075 00	1	—	—	21	424	19,606 00	90 60	Schools.
Cambridge, . . . . .	1	Taxation, .	—	10	2,000 00	1	—	—	5	113	3,400 00	1,124 85	City Treas.
Carlisle, . . . . .	1	—	—	—	—	1	—	—	1	—	—	94 35	Schools.
Charlestown, . . . . .	1	—	—	—	—	1	—	—	1	—	—	817 65	"
Chelmsford, . . . . .	1	—	—	—	—	1	—	—	1	—	—	—	"
Concord, . . . . .	1	Taxation, .	—	—	—	1	—	—	1	—	—	—	"

Reading, . . . . .	1	10	1,000 00	—	—	—	—	—	3	20	100 00	131 80	"
Sherborn, . . . . .	1	3	210 00	—	—	—	—	—	—	—	—	108 50	"
Shirley, . . . . .	—	—	—	—	—	—	—	—	—	—	—	111 45	"
Somerville, . . . . .	1	10.15	1,800 00	—	—	—	—	—	1	15	300 00	365 70	"
South Reading, . . . . .	1	10.10	900 00	—	—	—	—	—	—	—	—	179 55	"
Stoneham, . . . . .	1	10	1,000 00	—	—	—	—	—	—	—	—	160 95	"
Stow, . . . . .	—	—	—	—	—	—	—	—	3	96	160 00	120 00	"
Sudbury, . . . . .	—	—	—	—	—	—	—	—	1	80	200 00	112 50	"
Tewksbury, . . . . .	—	—	—	—	—	—	—	—	—	—	—	114 60	"
Townsend, . . . . .	—	—	—	—	—	—	—	—	1	30	150 00	131 85	"
Tyngsborough, . . . . .	—	—	—	—	—	—	—	—	—	—	—	90 30	"
Walham, . . . . .	1	10.10	1,200 00	1	85	5,000 00	—	—	5	89	1,846 00	279 75	"
Watertown, . . . . .	1	10	1,500 00	—	—	—	—	—	1	15	270 00	181 20	"
Wayland, . . . . .	—	—	—	—	—	—	—	—	—	—	—	110 85	"
W. Cambridge, . . . . .	1	10	1,500 00	—	—	—	—	—	2	30	800 00	156 75	"
Westford, . . . . .	—	—	—	1	33	500 00	—	—	—	—	—	117 75	"
Weston, . . . . .	1	10	400 00	—	—	—	—	—	—	—	—	110 40	"
Wilington, . . . . .	—	—	—	—	—	—	—	—	—	—	—	103 50	"
Winchester, . . . . .	1	10	1,000 00	—	—	—	—	—	1	13	780 00	147 15	"
Woburn, . . . . .	1	10	1,700 00	1	40	900 00	—	—	2	65	650 00	300 60	"
Totals, . . . . .	33	—	\$33,909 00	7	490	\$24,964 00	90	2,337	\$54,154 00	\$10,573 70			

Average.





Princeton, . . .	1,238	778,666	10	234	262	190	227	5	45	244	—	10	1	9	1	1	17
Royalton, . . .	1,441	711,872	13	307	335	266	298	12	75	315	—	15	4	9	4	4	17
Rutland, . . .	1,011	528,646	10	206	245	186	210	8	47	286	—	10	—	10	—	15	15
Shrewsbury, . . .	1,571	1,026,968	8	263	266	227	228	9	42	315	—	9	1	6	1	1	13
Southborough, . . .	1,760	957,403	9	360	842	296	302	16	47	846	1	8	2	9	2	2	14
Southbridge, . . .	4,131	1,696,264	16	733	639	505	491	11	14	980	1	16	2	14	2	2	19
Spencer, . . .	3,026	1,363,465	15	669	709	543	599	17	86	615	1	14	4	11	8	16	16
Sterling, . . .	1,668	1,086,710	12	289	356	289	312	—	51	337	—	12	4	8	4	17	17
Sturbridge, . . .	1,963	864,875	15	396	891	322	312	22	87	417	—	14	1	14	1	1	19
Sutton, . . .	2,833	1,141,588	15	436	495	350	414	29	77	496	—	14	8	12	3	8	19
Templeton, . . .	2,390	979,116	14	482	549	428	475	16	144	450	—	14	6	11	6	13	13
Upton, . . .	2,017	736,082	12	335	384	266	329	19	53	355	—	10	2	10	3	14	14
Uxbridge, . . .	2,835	1,624,174	15	613	571	460	460	52	75	646	1	14	8	12	3	20	20
Warren, . . .	2,205	985,109	11	301	351	211	257	13	31	422	—	10	1	10	1	16	16
Webster, . . .	3,608	1,060,039	10	544	528	405	400	24	52	577	1	9	2	8	4	18	18
Westborough, . . .	3,141	860,922	13	598	522	467	423	17	65	576	1	13	4	10	4	15	15
West Boylston, . . .	2,293	679,389	8	449	438	382	357	24	48	514	—	9	1	7	1	15	15
West Brookfield, . . .	1,549	1,337,740	9	340	388	279	305	9	52	367	—	9	4	6	4	12	12
Westminster, . . .	1,639	721,287	14	334	420	318	390	19	145	337	—	18	4	10	5	19	19
Winchendon, . . .	2,802	1,160,962	13	494	564	421	456	17	111	584	1	11	1	11	2	18	18
Worcester, . . .	30,058	19,701,244	78	5,796	5,244	4,034	3,975	62	376	5,983	6	89	6	89	11	105	105
Totals, . . .	162,923	\$80,357,766	772	31,444	31,439	24,737	25,561	968	4,046	33,897	45	781	158	647	189	1,006	1,006

## WORCESTER COUNTY—CONTINUED.

TOWNS.	AGGREGATE LENGTH OF THE PUBLIC SCHOOLS.			Average length as re- turned.	Average wages of male teachers per month, including the value of board.	Average wages of fe- male teachers per month, including the value of board.	Raised by taxes for schools, including wages of teachers, board, fuel, care of district, and school- house, for the school- year 1883-4.	Amount of board, fuel, etc., voluntarily con- tributed for public schools.	Expense of Superin- tendence and print- ing School Reports.	Amt of School Funds, the income of which can be appropriated only for the support of Academies and Schools.	Income from same.	Income of Funds, as of Surplus Revenue, ap- propriated to schools, that may be so appro- priated or not.
	Summer. Mos. Days.	Winter. Mos. Days.	Total. Mos. Days.									
Ashburnham,	30.02	31.15	61.17	4.08	\$47 08	\$28 92	\$1,700 00	\$14 00	\$132 11			
Athol, .	43.10	43	86.10	6.08	59 25	28 12	3,100 00	-	156 75			\$45 51
Auburn, .	22.13	17.02	39.15	6.02	35 00	20 03	900 00	28 25	87 00			
Barre, .	60.05	58.05	118.10	6	42 63	21 40	3,300 00	50 00	225 00			
Berlin, .	15	14.05	29.05	5.17	50 00	28 84	800 00	60 00	40 00	\$2,020 00	\$121 20	
Blackstone, .	39.10	42.10	82	7.11	43 00	26 00	4,500 00	80 00	200 07			
Bolton, .	39.08	31.06	70.14	7.02	43 81	23 77	1,524 00	60 00	148 00	12,000 00	920 00	
Boylston, .	14.17	19	33.17	6.15	51 00	19 87	750 00	20 00	75 00			
Brookfield, .	33.09	37.08	70.17	6.18	49 40	21 81	2,500 00	-	-			
Charlton, .	40	40.15	80.15	6.04	38 50	22 87	2,090 49	-	115 35	1,000 00	60 00	
Clinton, .	66.07	31.18	98.05	9.16	106 67	32 26	5,573 70	-	201 10			
Dana, .	16	14	30	5	37 73	23 87	700 00	60 00	64 00			
Douglas, .	32.02	32.01	64.03	5.1								

Everham, . . .	30.12	40.09	70.17	5.09	30.10	21.72	1,000 00	36 00	108 23	\$755 07	\$44 10	-
Phillipston, . .	12.10	18.15	31.05	3.45	34.00	24.42	700 00	37 00	58 25	-	-	-
Princeton, . . .	29.10	29.18	59.08	5.18	30.00	19.59	1,230 00	21 00	94 21	-	-	-
Royalston, . . .	35.04	36.17	72.01	5.10	41.11	21.75	1,200 00	48 50	90 25	6,500 00	580 45	-
Rutland, . . .	20	21.10	41.10	4.03	-	23.40	975 00	-	115 00	-	-	-
Shrewsbury, . .	25.01	22.11	47.12	6.08	36 00	26 06	1,400 00	18 00	124 25	-	-	-
Southborough, .	43.01	19.04	62.05	6.11	80 00	24.44	2,300 00	50 00	95 00	-	-	-
Southbridge, . .	68.02	48.03	116.05	7.05	50 00	20.75	3,300 00	200 00	155 00	-	-	-
Spencer, . . .	42.04	44.10	86.14	5.16	47 75	21.56	2,850 00	-	250 21	436 68	26 20	-
Sterling, . . .	31	33	64	5.03	42 01	23.29	1,800 00	75 00	68 00	-	-	79 95
Sturbridge, . .	42.02	45.13	87.15	6.01	25 00	20.42	1,600 00	70 00	110 00	-	-	-
Sutton, . . .	36.18	41.13	78.11	5.08	35 00	25.47	2,000 00	18 00	148 50	1,633 00	93 02	-
Templeton, . .	35.05	37	72.05	5.03	49 00	24.23	2,500 00	-	189 63	-	-	-
Upton, . . .	30	36	66	6	48 17	24.30	2,058 25	74 00	107 00	-	-	-
Uxbridge, . . .	49.15	47	96.15	6.09	55 00	22.14	3,150 00	-	151 69	-	-	220 00
Warren, . . .	27.12	31.10	59.02	5.19	31 00	24.94	1,800 00	72 00	-	-	-	-
Webster, . . .	31.09	38.05	69.14	6.14	60 00	25.04	2,850 00	-	180 00	-	-	-
Westborough, . .	52	49	101	6.04	49 50	24.42	3,000 00	16 00	211 00	-	-	-
West Boylston, .	23	25.08	48.08	6.01	40 00	27.46	1,375 00	21 65	155 15	-	-	-
West Brookfield, .	25.18	31.17	57.15	6.08	41 75	23.89	2,000 00	-	75 50	-	-	-
Westminster, . .	29.05	29.05	58.10	4.10	41 80	23.22	1,500 00	47 54	110 00	-	-	-
Winchendon, . .	33.09	35.03	68.12	5.10	66 36	27.15	2,500 00	-	232 68	-	-	-
Worcester, . . .	375	424	799	10.10	98 33	37.72	48,512 40	-	1,875 58	-	-	-
Totals, . . .	3.05	3.07	6.12	-	\$49 48	\$24 35	\$188,764 27	\$1,962 19	\$9,636 40	\$62,132 68	\$4,152 95	\$569 37



## WORCESTER COUNTY—CONCLUDED.

TOWNS.	HIGH SCHOOLS.					INCORP. ACADEMIES.			UNINCORP. ACADEMIES AND PRIVATE SCHOOLS.			Town's share of School Fund received in 1865 —how appropriated.	
	Number.	How supported.	LENGTH.		Salary of Principal.	Number.	Av'ge No. of Scholars.	Aggregate p'd for Tuition.	Number.	Av'ge No. of Scholars.	Aggregate p'd for Tuition.		
			Mos.	Days.									
Ashburnham,	1	Taxat'n in part,	—	9.06	\$780 00	1	—	—	2	75	\$110 00	\$143 10	Schools.
Athol,	1	—	—	—	—	1	—	—	12	80	125 00	163 80	High School.
Auburn,	1	—	—	—	—	1	—	—	—	—	—	106 65	Schools.
Barre,	1	Taxation,	—	9.05	700 00	1	—	—	1	—	—	149 70	"
Berlin,	1	—	—	—	—	1	—	—	1	—	—	106 05	"
Blackstone,	1	Taxation,	10	10.10	900 00	1	—	—	1	17	42 00	246 30	"
Bolton,	1	Funds,	—	—	500 00	1	—	—	1	50	50 00	123 75	"
Boylston,	1	—	—	—	—	1	—	—	1	30	40 00	97 95	"
Brookfield,	1	—	—	—	—	1	—	—	2	60	90 80	119 34	"
Charlton,	1	Taxation,	10	—	1,200 00	1	—	—	1	—	—	131 10	"
Clinton,	1	—	—	—	—	1	—	—	1	—	—	209 55	Town Treas.
Dana,	1	—	—	—	—	1	—	—	1	—	—	100 50	Schools.

Philipston, .	1	-	-	-	-	-	1	30	150 00	97 95	"
Princeton, .	1	-	-	-	-	-	2	60	280 00	111 60	"
Royalston, .	1	-	-	-	-	-	2	40	70 00	122 25	"
Rutland, .	1	-	-	-	-	-	2	65	325 00	110 40	"
Shrewsbury, .	1	-	-	-	-	-	-	-	-	122 25	"
Southborough, .	1	10	800 00	1	20	\$8,000 00	2	44	50 00	126 90	"
Southbridge, .	1	10	700 00	-	-	-	-	-	-	214 50	"
Spencer, .	1	10	800 00	-	-	-	4	34	131 00	167 25	"
Sterling, .	1	-	-	-	-	-	-	-	-	125 55	"
Sturbridge, .	1	-	-	-	-	-	1	45	150 00	137 55	"
Sutton, .	1	-	-	-	-	-	5	110	239 00	149 40	"
Templeton, .	1	5.05	400 00	-	-	-	1	30	115 00	142 50	"
Upton, .	1	2.10	150 00	-	-	-	-	-	-	128 25	"
Uxbridge, .	1	10	800 00	-	-	-	-	-	-	171 90	"
Warren, .	1	-	800 00	-	-	-	3	85	847 00	138 30	"
Webster, .	1	9.15	800 00	-	-	-	2	46	300 00	161 55	"
Westborough, .	1	10	900 00	-	-	-	3	94	79 00	161 40	"
West Boylston, .	1	-	-	-	-	-	-	-	-	152 10	"
West Brookfield, .	1	-	-	-	-	-	2	-	80 00	130 05	"
Westminster, .	1	2.15	165 00	-	-	-	1	90	208 00	125 55	"
Winchendon, .	1	8.05	530 00	-	-	-	6	26	207 00	162 60	"
Worcester, .	1	10.15	1,400 00	1	39	1,248 00	10	380	18,650 00	972 45	"
Totals, .	25	-	\$18,995 00	5	169	\$10,793 00	74	2,073	\$25,822 30	\$9,240 74	





Newton, . . .	1	10.06	1,800 00	2	222	\$16,964 00	4	55	1,476 00	371 70	"
North Reading, . .	1	8	600 00	1	-	-	4	80	100 00	-108 80	"
Pepperell, . . .	1	10	1,000 00	1	-	-	8	20	100 00	125 10	"
Reading, . . .	1	8	210 00	1	-	-	-	-	-	151 50	"
Sherborn, . . .	1	-	-	1	-	-	-	-	-	108 50	"
Shirley, . . .	1	10.15	1,800 00	1	-	-	1	15	300 00	111 45	"
Somerville, . . .	1	10.10	900 00	1	-	-	-	-	-	365 70	"
South Reading, . .	1	10	1,000 00	1	-	-	-	-	-	179 55	"
Stoneham, . . .	1	-	-	1	-	-	8	98	160 00	120 00	"
Stow, . . .	1	-	-	1	-	-	1	30	200 00	112 50	"
Sudbury, . . .	1	-	-	1	-	-	-	-	-	114 60	"
Tewksbury, . . .	1	-	-	1	-	-	1	30	150 00	181 85	"
Townsend, . . .	1	-	-	1	-	-	-	-	-	90 30	"
Tyngsborough, . .	1	10.10	1,200 00	1	85	5,000 00	5	89	1,846 00	279 75	"
Waltham, . . .	1	10	1,500 00	1	-	-	1	15	270 00	181 20	"
Watertown, . . .	1	-	-	1	-	-	-	-	-	110 85	"
Wayland, . . .	1	10	1,500 00	1	33	500 00	2	30	800 00	156 75	"
W. Cambridge, . .	1	-	-	1	-	-	-	-	-	117 75	"
Westford, . . .	1	10	400 00	1	-	-	-	-	-	110 40	"
Weston, . . .	1	-	-	1	-	-	-	-	-	108 50	"
Wilmington, . . .	1	10	1,000 00	1	-	-	1	18	780 00	147 15	"
Winchester, . . .	1	10	1,700 00	1	40	900 00	2	65	650 00	300 60	"
Woburn, . . .	1	-	-	1	-	-	-	-	-	-	"
Totals, . . .	33	-	\$33,909 00	7	490	\$24,964 00	90	2,337	\$54,154 00	\$10,573 70	

\* Average.

## WORCESTER COUNTY.

TOWNS.	Population - State Census, 1885.	Valuation—1885.	PUBLIC SCHOOLS.	No. of Scholars of all ages in the Public Schools.		Average attendance in the Public Schools.		Persons under 5 years of age who attend the Public Schools.	Persons over 15 years of age who attend the Public Schools.	No. in the State between 5 and 15 years of age May 1, 1885.	NO. OF TEACHERS IN PUBLIC SCHOOLS.				Number of different persons employed as Teachers in Public Schools.		
				In Sum'r.	In Winter.	In Sum'r.	In Winter.				SUMMER.		WINTER.		Males.	Fem.	
											Males.	Fem.	Males.	Fem.			
Ashburnham,	2,153	\$789,081	14	402	457	388	413	18	90	454	—	14	5	9	4	19	
Athol,	2,813	1,085,516	16	538	545	469	480	12	92	592	1	14	8	10	4	16	
Auburn,	959	503,928	7	230	214	176	178	16	42	211	—	—	8	1	5	1	12
Barre,	2,856	1,797,762	21	540	536	429	450	15	66	498	1	19	6	15	7	24	
Berlin,	1,062	401,831	5	186	214	160	183	15	45	207	—	5	1	4	1	7	
Blackstone,	4,857	1,993,024	14	860	762	632	517	36	90	1,142	2	27	2	12	4	21	
Bolton,	1,504	636,514	10	278	806	281	264	10	34	325	1	9	3	8	4	10	
Boylston,	792	467,551	6	133	161	111	144	12	41	153	—	6	1	5	1	10	
Brookfield,	2,106	973,859	12	379	442	327	375	9	65	384	1	11	4	8	5	14	
Charlton,	1,925	909,729	13	415	433	309	357	40	84	374	—	13	7	6	7	13	
Clinton,	4,021	2,017,299	10	922	676	518	525	—	62	897	1	10	1	10	1	11	
Dana,	789	242,117	6	168	199	145	182	6	39	170	—	6	1	4	1	9	
Douglas,	2,157	871,651	11	434	426	354	340	25	42	423	1	10	2	9	2	16	
Dudley,	2,077	681,471	9	342	392	265	289	26	34	437	—	9	2	2	7	12	
Fitchburg,	8,119	4,240,252	80	1,561	1,341	1,294	1,077	10	158	1,670	4	29	4	29	6	36	
Gardner,	2,553	905,824	12	536	567	463	490	27	110	511	—	12	3	9	3	8	
Grafton,	3,962	1,777,973	18	777	890	637	616	45	46	840	1	18	2	17	2	27	





## WORCESTER COUNTY—CONTINUED.

TOWNS.	AGGREGATE LENGTH OF THE PUBLIC SCHOOLS.			Average length in miles.	Average wages of male teachers per month, including the value of board.	Average wages of fe- male teachers per month, including the value of board.	Raised by taxes for schools, including wages of teachers, fuel, care of board, fuel, and school- rooms for the school- year 1885-6.	Amount of board, fuel, etc., voluntarily con- tributed for public schools.	Expenses of Superin- tendence and print- ing School Reports.	Amt of School Funds, the income of which can be appropriated only for the support of Academies and Schools.	Income from same.	Income of Funds, as of Supplies Bazaar, ap- propriated to Schools, that may be so appro- priated or not.
	Summer. Mos. Days.	Winter. Mos. Days.	Total. Mos. Days.									
Ashburnham,	30.02	31.15	61.17	4.08	\$47 08	\$28 92	\$1,700 00	\$14 00	\$132 11	-	-	\$45 51
Athol,	43.10	43	86.10	6.08	59 25	28 12	3,100 00	-	156 75	-	-	-
Auburn,	22.13	17.02	39.15	6.02	35 00	20 03	900 00	28 25	87 00	-	-	-
Barre,	60.05	58.05	118.10	6	42 63	21 40	3,800 00	50 00	225 00	-	\$121 20	-
Berlin,	15	14.05	29.05	6.17	50 00	28 34	800 00	60 00	40 00	\$2,020 00	-	-
Blackstone,	39.10	42.10	82	7.11	43 00	26 00	4,500 00	380 00	200 07	-	920 00	-
Bolton,	39.08	31.06	70.14	7.02	43 81	28 77	1,524 00	60 00	148 00	12,000 00	-	-
Boylston,	14.17	19	33.17	6.15	51 00	19 87	750 00	20 00	75 00	-	-	-
Brookfield,	33.09	37.08	70.17	5.18	49 40	21 81	2,500 00	-	-	1,000 00	80 00	-
Charlton,	40	40.15	80.15	6.04	38 50	22 87	2,090 49	-	201 10	-	-	-
Clinton,	66.07	31.18	98.05	9.16	108 67	32 26	5,573 70	60 00	64 00	-	-	-
Dana,	16	14	30	6	37 73	28 87	700 00	-	109 13	-	56 48	-
Douglas,	32.02	32.01	64.03	5.16	55 00	25 42	2,500 00	-	84 50	941 29	-	-
Dudley,	30	33	63	7	26 00	21 87	1,400 00	125 00	84 50	2,000 00	-	-
Fitchburg,	78.12	148.15	227.07	8.02	93 57	26 62	11,000 00	-	584 95	1,000 00	50 00	-
Gardner,	31.02	31.17	62.10	5.05	52 00	25 50	2,000 00	-	198 00	-	-	-



Phillipsburg, . . .	30.12	40.03	70.17	3.09	30 10	19 72	1,600 00	36 00	108 25	\$735 07	\$44 10	-
Princeton, . . .	12.10	18.15	31.05	4.15	34 00	24 42	700 00	37 00	57 25	-	-	-
Royalston, . . .	29.10	29.18	59.08	5.18	30 00	24 42	1,250 00	21 00	94 21	-	-	-
Rutland, . . .	35.04	36.17	72.01	5.10	41 11	21 75	1,200 00	48 50	90 25	6,500 00	580 45	-
Shrewsbury, . . .	25.01	21.10	41.10	4.03	-	23 40	975 00	-	115 00	-	-	-
Southborough, . . .	43.01	19.04	62.05	6.11	80 00	24 44	1,400 00	18 00	124 25	-	-	-
Southbridge, . . .	68.02	48.03	116.05	7.05	50 00	20 75	3,300 00	50 00	95 00	-	-	-
Spencer, . . .	42.04	44.10	86.14	5.16	47 75	21 56	2,850 00	200 00	155 00	-	-	-
Sterling, . . .	31	33	64	5.03	42 01	23 29	1,800 00	75 00	250 21	436 66	26 20	79 95
Sturbridge, . . .	42.02	45.13	87.15	6.01	25 00	20 42	1,600 00	70 00	110 00	-	-	-
Sutton, . . .	36.18	41.13	78.11	5.08	35 00	25 47	2,000 00	18 00	148 50	1,633 00	93 02	-
Templeton, . . .	35.05	37	72.05	5.03	49 00	24 23	2,500 00	-	189 63	-	-	-
Upton, . . .	30	36	66	6	48 17	24 30	2,058 25	74 00	107 00	-	-	220 00
Uxbridge, . . .	49.15	47	96.15	6.09	55 00	22 14	3,150 00	-	151 69	-	-	-
Warren, . . .	27.12	31.10	59.02	5.19	31 00	24 94	1,800 00	72 00	-	-	-	-
Webster, . . .	31.09	38.05	69.14	6.14	60 00	25 04	2,850 00	-	180 00	-	-	-
Westborough, . . .	52	49	101	6.04	49 50	24 42	3,000 00	16 00	211 00	-	-	-
West Boylston, . . .	23	25.08	48.08	6.01	40 00	27 46	1,375 00	21 65	155 15	-	-	-
West Brookfield, . . .	25.18	31.17	57.15	6.08	41 75	23 89	2,000 00	-	75 50	-	-	-
Westminster, . . .	29.05	29.05	58.10	4.10	41 80	23 22	1,500 00	47 54	110 00	-	-	-
Winchendon, . . .	33.09	35.03	68.12	5.10	66 36	27 15	2,500 00	-	232 68	-	-	-
Worcester, . . .	375	424	799	10.10	98 33	37 72	48,512 40	-	1,875 58	-	-	-
Totals, . . .	3.05	3.07	6.12	-	\$49 48	\$24 35	\$188,764 27	\$1,962 19	\$9,636 40	\$62,132 68	\$4,152 95	\$569 37



## WORCESTER COUNTY—CONCLUDED.

TOWNS.	HIGH SCHOOLS.				INCORP. ACADEMIES.				UNINCORP. ACADEMIES AND PRIVATE SCHOOLS.				Town's share of School Fund received in 1866, according to No. children between 5 and 15 May 1, 1865.	Town's share of School Fund received in 1865—how appropriated.
	Number.	How supported.	Length. Mos. Days.	Salary of Principal.	Number.	Avg No. of Scholars.	Aggregate p'd for Tuition.	Number.	Avg No. of Scholars.	Aggregate p'd for Tuition.	Number.	Avg No. of Scholars.		
Ashburnham,	1	Taxat'n in part,	9.06	\$780 00	1	—	—	2	75	\$110 00	1	75	\$143 10	Schools.
Athol, .	1	—	—	—	1	—	—	2	80	125 00	1	80	163 80	High School.
Auburn, .	1	Taxation, .	9.05	700 00	1	—	—	1	—	—	1	—	106 65	Schools.
Barre, .	1	—	—	—	1	—	—	1	—	—	1	—	149 70	"
Berlin, .	1	—	—	—	1	—	—	1	—	—	1	—	106 05	"
Blackstone, .	1	Taxation, .	10	900 00	1	—	—	1	17	42 00	1	17	246 30	"
Bolton, .	1	Funds, .	10.10	500 00	1	—	—	1	50	50 00	1	50	123 75	"
Boylston, .	1	—	—	—	1	—	—	1	30	40 00	1	30	97 95	"
Brookfield, .	1	—	—	—	1	—	—	2	60	90 80	1	60	119 34	"
Charlton, .	1	Taxation, .	10	1,200 00	1	—	—	1	—	—	1	—	131 10	"
Clinton, .	1	—	—	—	1	—	—	1	—	—	1	—	209 55	Town Treas.
Dana, .	1	—	—	—	1	—	—	1	—	—	1	—	100 50	Schools.
Douglas, .	1	—	—	—	1	—	—	1	—	—	1	—	138 45	"
Dudley, .	1	—	—	—	1	—	—	1	78	1,418 00	1	78	140 55	"
Fitchburg, .	1	Taxation, .	10.10	1,200 00	1	—	—	1	20	600 00	1	20	325 50	"
Gardner, .	1	—	—	—	1	—	—	3	60	180 00	3	60	151 65	"
Grafton, .	1	Taxation, .	10.10	1,000 00	1	—	—	3	120	216 00	3	120	201 00	"
Hardwick, .	1	—	—	—	1	—	—	2	40	51 50	2	40	119 85	"



## HAMPSHIRE COUNTY.

TOWNS.	Population - State Census, 1865.	Valuation—1865.	PUBLIC SCHOOLS.				No. of Scholars of all ages in the Public Schools.		Average attendance in the Public Schools.		Persons over 15 years of age who attend the Public Schools.	No. in the State be- tween 5 and 15 years of age May 1, 1865.	NO. OF TEACHERS IN PUBLIC SCHOOLS.				Number of different persons employed as Teachers in Public Schools.	
			In Sum'r.		In Winter.		In Sum'r.	In Winter.	SUMMER.				WINTER.		Males.	Fem.	Males.	Fem.
			In Sum'r.	In Winter.	In Sum'r.	In Winter.			Males.	Fem.			Males.	Fem.				
Amherst, . . .	3,413	\$1,860,457	16	601	664	518	526	16	131	635	1	16	1	16	1	1	23	
Belchertown, . .	2,636	1,108,591	20	464	583	388	485	17	93	568	-	19	3	18	3	3	28	
Chesterfield, . .	802	372,790	10	155	163	122	131	8	35	177	-	10	1	8	1	1	13	
Cumington, . . .	980	342,842	10	228	251	176	202	12	23	222	-	10	-	10	-	-	13	
Easthampton, . .	2,869	1,700,599	13	452	513	374	398	8	59	542	-	12	-	13	-	-	18	
Enfield, . . .	999	610,644	8	170	209	141	183	14	35	189	-	8	3	5	3	3	10	
Goshen, . . .	412	152,796	5	81	93	69	75	5	11	82	-	5	1	4	1	1	6	
Granby, . . .	908	470,125	9	206	210	174	171	13	3	180	-	9	9	9	9	15		
Greenwich, . . .	647	261,416	7	118	149	102	131	4	27	113	-	8	2	5	2	11		
Hadley, . . .	2,246	1,279,320	13	378	378	304	304	4	42	423	-	12	-	13	-	22		
Hatfield, . . .	1,405	1,442,691	8	243	298	188	251	6	26	289	-	8	-	9	-	12		
Huntington, . . .	1,163	400,395	8	221	219	179	174	13	36	238	-	9	2	7	2	15		
Middlefield, . . .	723	351,881	11	156	179	124	146	14	29	158	-	9	3	6	3	12		
Northampton, . .	7,927	4,789,965	28	1,374	1,313	1,065	1,066	19	100	1,065	1	33	2	33	2	41		
Pelham, . . .	739	197,457	7	147	151	113	139	16	41	145	-	7	2	5	2	8		
Plainfield, . . .	579	239,097	10	121	169	108	148	13	18	104	-	10	2	8	2	12		





## HAMPSHIRE COUNTY—CONTINUED.

TOWNS.	AGGREGATE LENGTH OF THE PUBLIC SCHOOLS.			Average length as re- turned.	Average wages of Male Teachers per month, including the value of board.	Average wages of Fe- male Teachers per month, including the value of board.	Raised by taxes for schools, including wages of Teachers, board, fuel, care of rooms, for the school- year 1863-4.	Amount of board, fuel, &c., voluntarily con- tributed for Public Schools.	Expense of Superin- tendence and print- ing School Reports.	Amt of School Funds, the income of which can be appropriated only for the support of Academies and Schools.	Income from same.	Income of Funds, as of Surplus Revenue, ap- propriated to Schools, that may be so appro- priated or not.
	Summer. Mos. Days.	Winter. Mos. Days.	Total. Mos. Days.									
Amherst, .	64	64	128	8	\$83 33	\$26 00	\$5,000 00	\$100 00	\$457 55	\$700 00	\$42 00	
Belchertown, .	55	66	121	6.04	33 00	21 00	3,000 00	209 00	139 00	-	-	
Chesterfield, .	36.11	25	61.11	6.03	29 40	22 60	800 00	487 20	44 50	1,100 00	66 00	
Cummington, .	32	34	66	6.12	-	20 80	1,000 00	580 00	36 00	-	-	
Easthampton, .	39.15	42.15	82.10	8.16	-	28 00	2,200 00	-	120 00	75,000 00	5,000 00	
Enfield, .	18.17	25.10	44.07	5.10	25 33	20 38	1,000 00	-	30 58	-	-	
Goshen, .	13	14	27	5.08	32 00	18 00	400 00	176 00	41 25	-	-	
Granby, .	34	27.10	61.10	6.18	-	19 50	1,000 00	145 00	70 00	-	-	
Greenwich, .	19.07	19.03	38.10	5.09	36 50	19 08	800 00	-	49 55	-	-	
Hadley, .	49.02	40.03	89.05	8.04	-	24 47	2,600 00	30 00	140 65	24,258 04	1,582 38	
Hatfield, .	23.15	25.05	49	6.10	-	27 00	1,500 00	-	75 00	-	-	
Huntington, .	29.15	24.10	54.05	6.08	30 13	23 22	1,000 00	411 00	66 52	-	-	
Middlefield, .	26.05	27.07	53.12	4.17	29 33	19 29	500 00	533 00	39 50	-	-	
Northampton, .	123.08	123.07	246.15	8.16	75 50	28 80	10,000 00	-	381 80	2,906 87	200 46	\$90 00
Pelham, .	16.04	20	36.04	5.11	32 00	18 50	781 00	-	56 00	-	-	
Plainfield, .	26	22.05	48.05	4.16	21 00	16 70	500 00	334 00	42 96	-	-	
Prescott, .	15	15.15	30.15	5.03	32 50	16 50	600 00	175 00	50 00	-	-	

Cucopee, . . .	180	201	77	10	77	29	12,110 00	-	620 00	10,000 88	0.25 04	-
Granville, . . .	41.03	72.08	31.05	6.12	33 66	20 05	800 00	600 00	45 00	-	-	-
Holland, . . .	8.07	20.01	11.14	5	27 00	20 41	300 00	107 02	25 00	222 22	13 83	-
Holyoke, . . .	92.09	184.19	92.10	9.18	93 37	25 81	300 00	-	540 00	-	-	-
Longneadow, . . .	35.05	71.19	36.14	7.14	37 00	22 54	7,000 00	24 50	95 50	1,131 00	24 00	-
Ludlow, . . .	31	64.15	33.15	7	30 00	18 60	2,000 00	200 00	45 00	-	-	-
Monson, . . .	53	113.05	60.05	6.02	34 00	22 50	1,300 00	250 00	150 00	23,000 00	1,380 00	-
Montgomery, . . .	16.05	30.05	14	6	31 00	22 00	400 00	336 50	16 60	-	-	-
Palmer, . . .	52	96.10	44.10	6	50 00	24 38	2,700 00	149 00	165 00	825 00	62 04	-
Russell, . . .	21.05	42.15	21.10	6.04	-	19 18	450 00	338 10	24 00	-	-	-
Southwick, . . .	32.15	63.10	30.15	7	58 20	20 50	504 00	372 50	55 00	15,618 01	937 08	-
Springfield, . . .	257.01	514.02	257.01	10.02	130 13	33 16	86,139 00	-	1,975 00	7,704 00	462 24	\$81 00
Tolland, . . .	18	38.05	20.05	5.18	-	17 38	400 00	360 25	26 00	-	-	-
Wales, . . .	17	87.06	20.08	6.04	40 00	18 19	750 00	-	46 43	-	-	-
Westfield, . . .	149.10	234	84.10	9	66 00	23 00	8,000 00	-	300 00	10,000 00	600 00	-
West Springfield, . . .	47.05	95.08	48.03	8	-	21 58	1,600 00	543 00	134 00	13,892 00	830 11	-
Wilbraham, . . .	45.10	83	37.10	6.07	31 00	22 00	1,600 00	63 00	86 00	-	102 00	-
Totals, . . .	4.01	7.11	3.10	-	\$50 52	\$22 20	\$33,453 00	\$5,454 87	\$4,362 10	\$101,630 06	\$6,239 06	\$183 00



## HAMPSHIRE COUNTY—CONCLUDED.

[illegible]

Canebrake	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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## FRANKLIN COUNTY.

TOWNS.	Population — State Census, 1865.	Valuation—1865.	PUBLIC SCHOOLS.		No. of Scholars of all Ages in the Public Schools.		Average attendance in the Public Schools.		Persons under 5 years of age who attend the Public Schools.	Persons over 15 years of age who attend the Public Schools.	No. in the State be- tween 5 and 15 years of age May 1, 1865.	NO. OF TEACHERS IN PUBLIC SCHOOLS.				Number of different persons employed as Teachers in Public Schools.	
			In Winter.		In Summer.		In Sum'r.	In Winter.				SUMMER.		WINTER.		Males.	Fem.
			In Sum'r.	In Winter.	In Sum'r.	In Winter.						Males.	Fem.	Males.	Fem.		
Ashfield, .	1,221	\$611,869	14	228	232	197	19	58	202	16	2	9	2	20	8	2	
Barnardston, .	902	484,893	6	160	214	151	7	24	178	7	178	7	2	2	4	2	
Buckland, .	1,922	526,468	13	370	351	308	265	19	43	405	12	11	3	1	19	1	
Charlemont, .	994	367,216	8	198	214	171	178	18	64	249	8	5	3	3	13	3	
Coleraine, .	1,726	637,954	18	320	375	265	328	11	64	374	15	3	3	3	28	3	
Conway, .	1,538	703,919	16	276	295	230	259	19	28	324	14	14	2	2	24	2	
Deerfield, .	3,040	1,215,423	19	644	680	524	566	24	110	708	1	16	4	27	27	4	
Erving, .	576	173,229	4	124	136	103	115	8	9	137	4	1	3	6	6	1	
Gill, .	635	390,569	6	121	140	102	114	4	22	141	—	6	—	10	10	—	
Greenfield, .	3,211	1,899,806	13	500	499	375	406	3	56	633	1	3	13	3	18	3	
Hawley, .	687	182,638	17	122	143	106	127	12	43	150	8	1	7	10	10	1	
Heath, .	642	232,551	8	133	179	115	147	12	42	137	7	4	4	4	11	4	
Leverett, .	914	284,644	8	180	208	153	175	5	43	187	8	4	5	4	10	4	
Leyden, .	592	278,647	5	89	136	71	101	2	35	125	5	3	3	3	7	3	
Monroe, .	192	79,375	4	38	53	27	39	1	14	36	3	1	2	1	3	1	
Montague, .	1,575	608,737	12	313	330	268	291	20	42	372	12	11	1	16	16	1	





## FRANKLIN COUNTY—CONTINUED.

TOWNS.	AGGREGATE LENGTH OF THE PUBLIC SCHOOLS.			Average length as re-turned.	Average wages of Male Teachers per month, including the value of board.	Average wages of Female Teachers per month, including the value of board.	Raised by taxes for Schools, including wages of Teachers, fuel, care of rooms, for the school-year 1895-6.	Amount of board, fuel, &c., voluntarily contributed for Public Schools.	Expense of Superintendence and printing School Reports.	Amt. of School Funds, the income of which can be appropriated only for the support of Academics and Schools.	Income from same.	Income of Funds, as of Surplus Revenue, appropriated to Schools, that may be so appropriated or not.
	Summer. Mos. Days.	Winter. Mos. Days.	Total. Mos. Days.									
Ashfield, .	48	41	89	6.07	\$35 00	\$22 16	\$1,500 00	\$561 00	\$75 00	\$810 00	\$48 59	-
Barnardston, .	19.10	18	37.10	6.05	32 67	23 55	300 00	210 00	45 00	10,716 67	1,143 00	-
Buckland, .	34.05	32	66.05	5.10	40 00	19 21	1,200 00	59 00	71 50	914 83	54 89	-
Charlemon, .	22.11	24 03	46.14	5.17	29 77	23 54	900 00	-	63 50	800 00	48 00	-
Coleraine, .	40.07	46.18	87.05	5.09	43 33	20 24	1,200 00	-	86 11	-	-	-
Conway, .	46.15	47.15	94.10	6.08	30 17	20 29	1,300 00	571 80	101 77	-	-	-
Deerfield, .	64.10	66.10	131	7.01	62 25	26 04	4,054 61	483 50	179 73	10,000 00	600 00	\$44 74
Erving, .	10.10	11.09	21.19	5.04	45 00	21 08	500 00	-	24 54	-	-	-
Gill, .	17	15	32	5.07	-	20 33	500 00	225 00	35 00	-	-	-
Greenfield, .	53.05	52.10	105.15	5.02	73 33	30 48	5,600 00	200 00	134 39	-	-	-
Hawley, .	20.10	20.13	41.03	5.03	38 00	19 72	700 00	284 50	53 00	400 00	24 00	-
Heath, .	19.05	23.07	42.12	5.14	32 50	16 55	700 00	270 00	50 00	-	-	-
Leverett, .	21.10	20.04	41.14	5.04	33 00	17 48	600 00	96 34	54 00	-	-	-
Leyden, .	16	14.14	30.14	5.10	34 67	23 15	550 00	328 00	33 00	-	-	-
Monroe, .	6.16	7	13.16	4.12	26 00	20 00	108 00	150 00	15 00	207 33	12 44	12 00
Montague, .	32.15	33.05	66	5.06	46 00	19 25	1,500 00	250 00	60 00	-	-	165 12





## FRANKLIN COUNTY—CONCLUDED.

TOWNS.	HIGH SCHOOLS.				INCORP. ACADEMIES.				UNINCORP. ACADEMIES AND PRIVATE SCHOOLS.				Town's share of School Fund received in 1886—how appropriated.	Schools.
	Number.	How supported.	Length.		Number.	Av'ge No. of Scholars.	Aggregate p'd for Tuition.	Number.	Av'ge No. of Scholars.	Aggregate p'd for Tuition.				
			Mos.	Days.										
Ashfield,	1	-	-	-	1	-	-	1	57	\$1,616 50	-	\$105 30	Town's share of School Fund received in 1886—how appropriated.	1
Barnardston,	1	-	-	-	1	-	-	3	70	140 00	-	101 70	Town's share of School Fund received in 1886—how appropriated.	1
Buckland,	1	-	-	-	1	-	-	2	30	100 00	-	135 75	Town's share of School Fund received in 1886—how appropriated.	1
Charlemont,	1	-	-	-	1	-	-	1	52	-	-	112 35	Town's share of School Fund received in 1886—how appropriated.	1
Coleraine,	1	-	-	-	1	-	-	3	52	116 80	-	131 10	Town's share of School Fund received in 1886—how appropriated.	1
Conway,	1	Taxation,	10	\$1,000 00	1	27	\$400 00	1	45	36 00	-	123 60	Town's share of School Fund received in 1886—how appropriated.	1
Deerfield,	1	-	-	-	1	16	233 06	1	30	60 00	-	181 20	Town's share of School Fund received in 1886—how appropriated.	1
Erving,	1	-	-	-	1	-	-	2	60	1,800 00	-	95 55	Town's share of School Fund received in 1886—how appropriated.	1
Gill,	1	Taxation,	10	1,200 00	1	-	-	1	16	60 00	-	96 15	Town's share of School Fund received in 1886—how appropriated.	1
Greenfield,	1	-	-	-	1	-	-	1	30	90 00	-	169 95	Town's share of School Fund received in 1886—how appropriated.	1
Hawley,	1	-	-	-	1	-	-	1	16	60 00	-	87 75	Town's share of School Fund received in 1886—how appropriated.	1
Heath,	1	-	-	-	1	-	-	1	30	90 00	-	95 55	Town's share of School Fund received in 1886—how appropriated.	1
Leverett,	1	-	-	-	1	-	-	2	70	250 00	-	103 05	Town's share of School Fund received in 1886—how appropriated.	1
Leyden,	1	-	-	-	1	-	-	1	50	450 00	-	93 75	Town's share of School Fund received in 1886—how appropriated.	1
Monroe,	1	-	-	-	1	-	-	2	70	250 00	-	80 40	Town's share of School Fund received in 1886—how appropriated.	1
Montague,	1	-	-	-	1	-	-	2	50	450 00	-	130 80	Town's share of School Fund received in 1886—how appropriated.	1



## BERKSHIRE COUNTY.

TOWNS.	Population — State Census, 1865.	Valuation—1865.	PUBLIC SCHOOLS.		No. of Scholars of all ages in the Public Schools.		Average attendance in the Public Schools.		Persons under 5 years of age who attend the Public Schools.	Persons over 15 years of age who attend the Public Schools.	No. in the State be- tween 5 and 15 years of age May 1, 1865.	NO. OF TEACHERS IN PUBLIC SCHOOLS.				Number of different persons employed as Teachers in Public Schools.	
			In Sum'r.	In Winter.	In Sum'r.	In Winter.	SUMMER.					WINTER.		Males.	Fem.	Males.	Fem.
							Males.	Fem.				Males.	Fem.				
Adams,	8,298	\$3,350,551	29	1,682	1,685	1,013	1,232	26	36	1,564	1	29	3	30	3	36	
Alford,	461	340,490	3	52	72	27	51	2	3	63	—	2	2	1	2	3	
Becket,	1,393	478,120	12	324	296	253	252	10	45	320	—	12	3	7	3	14	
Cheshire,	1,650	675,997	9	294	326	204	230	9	13	372	—	8	1	7	1	12	
Clarksburg,	530	133,234	4	91	110	73	77	4	5	120	—	4	—	4	—	4	
Dalton,	1,137	988,160	8	233	200	188	157	2	17	256	—	8	—	8	—	11	
Egremont,	928	587,619	5	142	162	102	121	8	19	191	—	5	3	2	3	7	
Florida,	1,173	152,523	6	173	180	142	142	13	41	150	1	6	3	3	3	8	
Gt. Barrington,	3,920	2,177,071	19	655	634	571	453	45	39	830	—	18	1	18	1	27	
Hancock,	967	490,299	7	160	182	130	148	6	5	229	—	7	1	6	1	9	
Hindale,	1,517	801,755	9	264	300	208	250	8	34	349	—	8	2	7	2	12	
Lanesborough,	1,295	661,048	7	263	247	181	171	5	22	273	—	7	4	3	4	9	
Lee,	4,034	1,682,411	14	829	727	559	523	36	13	947	1	14	2	13	2	18	
Lenox,	1,667	827,539	7	273	317	164	231	5	31	286	—	7	3	8	3	10	
Monterey,	737	292,117	9	124	142	86	112	13	15	152	—	8	—	8	—	12	
Mt. Washington,	233	87,676	2	43	53	32	45	3	12	61	—	2	—	—	2	2	

Totals, . .	56,966	\$27,937,444	310	10,717	10,324	7,686	8,114	446	837	11,940	5	304	65	243	65	398
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Windsor, . . .	81.02	31.05	62.07	5.13	28 00	18 82	700 00	524 00	9 00	583 33	35 00	-
Totals, . . .	3.11	3.09	7	-	\$40 52	\$22 06	\$45,921 60	\$9,895 41	\$2,044 39	\$20,531 38	\$1,172 20	\$633 41



## BERKSHIRE COUNTY—CONCLUDED.

TOWNS.	HIGH SCHOOLS.			INCORP. ACADEMIES.			UNINCORP. ACADEMIES AND PRIVATE SCHOOLS.			Town's share of School Fund received in 1866, according to No. chil- dren between 5 and 15 May 1, 1866.	Town's share of School Fund received in 1865 —how appropriated.	
	Number.	How supported.	Length. Mos. Days.	Salary of Principal.	Number.	Av'ge No. of Scholars.	Aggregate p'd for Tuition.	Number.	Av'ge No. of Scholars.			Aggregate p'd for Tuition.
Adams,	1	Taxation,	9	\$1,000 00	1			3	50	\$500 00	\$309 60	Schools.
Alford,	1	—	—	—	1	1	1	4	94	136 00	84 45	"
Becket,	1	—	—	—	1	1	1	2	80	250 00	110 70	"
Cheshire,	1	—	—	—	1	1	1	1	1	—	130 80	"
Clarksburg,	1	Taxation,	6	240 00	1	1	1	1	1	—	93 00	"
Dalton,	1	—	—	—	1	1	1	2	40	250 00	113 40	"
Egremont,	1	—	—	—	1	1	1	1	20	100 00	103 65	"
Florida,	1	—	—	—	1	1	1	4	90	1,800 00	97 50	"
Gt. Barrington,	1	—	—	—	1	1	1	1	20	200 00	199 50	"
Hancock,	1	Taxation,	5.10	1,200 00	1	1	1	2	60	80 00	109 35	"
Hinsdale,	1	—	—	—	1	1	1	2	64	1,920 00	127 35	"
Lanesborough,	1	Taxation,	10.05	1,200 00	1	1	1	3	60	460 00	115 95	"
Lee,	1	—	—	—	1	1	1	3	50	1,500 00	217 05	"
Lenox,	1	—	—	—	1	1	1	3	50	1,500 00	117 90	"
Monterey,	1	—	—	—	1	1	1	1	1	—	97 80	"
Mt. Washington,	1	—	—	—	1	1	1	1	1	—	97 80	"

[illegible]

WINN-DIXIE STORES	-	-	-	-	-	-	-	-	-
TOTAL	5	-	\$4,840 00	3	105	\$2,625 00	50	942	\$18,854 00
TOTAL	.	.	\$3,988 71	.	.	.	.	.	\$3,988 71

[illegible][illegible]

Winner,	•	-	-	-	-
Totals,	•	5	-	\$4,840 00	\$2,625 00

[illegible]

Insurance, .	-	-	-
<b>Totals,</b>	<b>5</b>	<b>5</b>	<b>\$4,840 00</b>

Windsor, .	-	-
<b>Totals, .</b>	<b>5</b>	<b>-</b>

Windsor,	.	1	
Totals,	.	5	

Windsor,	.	5
Totals,	.	

**Totals,**

## NORFOLK COUNTY.

TOWNS.	Population - State Census, 1865.	Valuation—1865.	PUBLIC SCHOOLS.		No. of Scholars of all ages in the Public Schools.		Average attendance in the Public Schools.		Persons under 5 years of age who attend the Public Schools.	Persons over 15 years of age who attend the Public Schools.	No. in the State be- tween 5 and 15 years of age May 1, 1865.	NO. OF TEACHERS IN PUBLIC SCHOOLS.				Number of different persons employed as Teachers in Public Schools.					
																		Males.	Fem.		
																				Males.	Fem.
			In Sum'r.	In Winter.	In Sum'r.	In Winter.	In Sum'r.	In Winter.				In Sum'r.	In Winter.	Summer.	Winter.	Males.	Fem.				
Bellingham,	1,240	\$463,951	10	267	287	229	237	26	5	26	282	10	10	1	10	1	14				
Braintree, .	3,725	1,582,530	15	757	642	570	536	29	13	29	833	2	14	2	15	2	18				
Brookline, .	5,262	12,107,550	24	982	971	727	739	1	1	119	956	5	20	5	20	5	20				
Canton, .	8,318	2,211,313	14	713	701	544	559	10	10	35	828	2	12	6	8	8	14				
Cohasset, .	2,048	1,174,953	10	423	413	261	301	24	24	47	380	1	9	2	10	4	10				
Dedham, .	7,198	4,857,587	28	1,369	1,340	1,032	1,065	99	216	216	1,506	6	25	7	24	7	30				
Dorchester, .	10,729	12,521,038	41	2,085	2,087	1,630	1,655	108	66	108	2,336	9	38	9	39	11	43				
Dover, .	616	358,774	5	158	181	120	155	8	3	30	136	1	5	1	5	1	7				
Foxborough, .	2,778	1,284,524	10	525	496	440	405	14	—	—	534	2	10	3	10	3	13				
Franklin, .	2,510	1,046,874	12	466	454	378	391	23	23	44	452	1	12	2	10	2	15				
Medfield, .	1,011	613,155	5	149	171	121	158	1	1	14	143	—	4	—	5	—	6				
Medway, .	3,223	1,251,393	13	646	615	525	516	16	16	60	647	15	2	12	2	2	17				
Milton, .	2,769	4,271,263	10	490	402	369	394	9	9	32	507	6	5	6	5	6	6				
Needham, .	2,793	1,798,498	14	524	526	418	419	12	46	46	532	2	11	2	12	3	18				
Quincy, .	6,718	3,833,508	24	1,497	1,485	1,168	1,183	75	—	75	1,550	6	22	6	22	12	28				
Randolph, .	5,734	2,925,254	24	1,370	1,149	1,002	847	49	51	49	1,403	4	21	5	20	8	24				



Dighton, . . .	1,815	776,770	11	301	811	259	239	26	61	830	-	11	5	6	5	14
Easton, . . .	3,084	1,930,900	13	656	658	655	568	17	71	660	1	13	4	11	4	19
Fairhaven, . .	2,548	1,778,217	13	526	532	402	422	10	92	483	2	13	5	10	7	13
Fall River, . .	17,525	12,632,419	43	3,247	2,964	2,086	2,060	30	304	4,164	6	55	8	58	9	67
Freetown, . . .	1,484	706,117	8	318	330	238	269	16	50	335	-	8	1	7	1	12
Mansfield, . .	2,131	750,442	10	438	385	369	316	25	29	433	1	9	-	10	1	14
New Bedford, .	20,863	20,525,790	34	3,455	3,532	2,867	2,853	-	297	3,852	8	70	8	71	9	77
Norton, . . .	1,709	842,527	9	340	353	275	279	4	28	351	-	9	4	5	4	12
Raynham, . . .	1,868	1,115,026	8	331	308	270	255	20	42	329	-	8	-	8	-	12
Rehoboth, . . .	1,843	764,906	15	312	378	258	312	18	66	370	-	15	3	12	3	18
Seekonk, . . .	929	496,844	8	151	180	122	155	10	38	146	-	8	-	8	-	13
Somerset, . . .	1,791	865,618	6	384	386	310	308	7	48	419	1	7	3	5	4	7
Swansey, . . .	1,335	755,680	10	204	271	148	201	15	64	226	-	10	6	4	6	12
Taunton, . . .	16,005	8,463,074	49	2,931	2,965	2,187	2,172	28	210	3,250	5	54	6	62	6	69
Westport, . . .	2,802	1,453,897	20	543	608	375	467	30	82	641	1	19	5	15	6	21
Totals, . . .	89,505	\$59,464,668	323	16,217	16,302	12,269	12,499	347	1,670	18,532	26	380	72	349	79	477

## NORFOLK COUNTY—CONTINUED.

TOWNS.	AGGREGATE LENGTH OF THE PUBLIC SCHOOLS.			Average length as re- turned.	Average wages of Male Teachers per month, including the value of board.	Average wages of Fe- male Teachers including the value of board.	Raised by taxes for schools, including wages of Teachers, board, fuel, care of rooms, for the school- year 1869-70.	Amount of board, fuel, &c., voluntarily con- tributed for Public Schools.	Expense of Superin- tendence and prin- cipal School Reports.	Amt of School Funds, the income of which can be appropriated only for the support of Academies and Schools.	Income from same.	Income of Funds, as of Surplus Revenue, ap- propriated to schools, that may be so appro- priated or not.
	Summer. Mos. Days.	Winter. Mos. Days.	Total. Mos. Days.									
Bellingham, .	29.08	31.02	60.10	6.01	\$39 33	\$23 95	\$1,400 00	-	\$105 00	\$418 16	\$25 09	\$140 63
Braintree, .	80	41.07	121.07	8	66 64	26 23	4,000 00	-	112 02	4,500 00	300 00	-
Brookline, .	144	144	288	12	136 67	41 56	19,848 88	-	530 00	-	-	-
Canton, .	82.18	49.06	132.04	8	48 00	23 20	4,500 00	\$50 00	219 42	-	-	-
Cohasset, .	45	48.10	93.10	10	66 92	15 73	2,600 00	-	135 37	1,000 00	50 00	-
Dedham, .	137.15	145.10	283.05	10	83 57	26 73	15,350 00	300 00	339 76	1,100 00	66 00	-
Dorchester, .	213	213	426	10.06	113 75	40 00	36,500 00	-	881 05	16,911 50	1,273 35	-
Dover, .	16	16.17	32.17	6.14	-	27 10	800 00	-	44 00	-	-	-
Foxborough, .	50.15	32	82.15	8.10	63 00	28 83	4,700 00	-	130 00	-	-	-
Franklin, .	36	36	72	6	56 00	28 75	2,552 40	-	191 84	-	-	-
Medfield, .	12.15	16	28.15	6.03	-	27 32	900 00	-	67 00	3,760 00	225 60	-
Medway, .	44.10	39.15	84.05	6.18	52 50	28 37	3,000 00	21 00	136 00	200 00	12 00	-
Milton, .	50	50	100	10	80 00	31 37	7,000 00	-	85 00	-	-	-
Needham, .	75.07	54	129.07	9.13	90 00	26 67	5,348 82	-	272 00	2,353 16	141 18	-
Quincy, .	126.09	123.12	250.01	10.09	81 81	25 77	12,375 00	-	625 00	1,250 00	75 00	-
Randolph, .	143.15	71.10	215.05	9.10	81 50	20 50	7,000 00	-	186 75	12,300 00	2,013 41	-

Easton,	40.03	49	89.03	6.17	67 75	25 22	2,700 00	700 00	135 00	-	300 00	-	-
Fairhaven,	71.13	36.10	108.03	8.05	60 57	22 37	4,500 00	40 00	115 00	-	-	-	-
Fall River,	219.05	223.10	442.15	10.05	75 96	26 54	27,000 00	-	982 67	-	-	-	-
Freetown,	23.03	24.10	47.13	5.19	31 09	22 30	1,200 00	-	54 31	-	-	-	-
Mansfield,	30.05	29.05	59.10	5.19	18 00	26 32	1,515 46	-	95 00	-	60 00	-	-
New Bedford,	154.14	192.02	346.16	10.04	103 53	36 76	40,910 14	-	2,103 62	-	300 00	-	-
Norton,	26.18	29.09	55.07	6.05	40 00	21 89	1,500 00	-	-	-	-	-	-
Raynham,	24	25	49	6.03	-	30 47	1,500 00	-	-	-	-	-	-
Rehoboth,	47	46.10	93.10	6.02	33 67	18 57	1,000 00	-	79 00	-	197 74	\$336 20	-
Seekonk,	26.14	25.05	51.19	6.10	-	19 98	545 14	12 00	60 00	-	190 86	264 00	-
Somerset,	18	19.15	37.15	6.08	48 63	21 75	1,685 00	-	85 75	-	-	-	-
Swansey,	25.15	35.08	61.03	6.04	40 91	20 18	1,762 57	33 00	55 00	-	-	-	-
Taunton,	178.05	240.05	418.10	8.10	88 14	27 19	17,515 80	-	925 00	-	876 50	-	-
Westport,	74.13	61.08	135.01	6.16	30 00	17 07	2,100 00	500 00	82 00	-	-	-	-
Totals,	3.17	4.01	7.18	-	\$49 16	\$23 58	\$119,233 61	\$1,466 20	\$5,211 35	\$43,676 40	\$2,633 10	\$600 20	-



## NORFOLK COUNTY—CONCLUDED.

TOWNS.	HIGH SCHOOLS.				INCORP. ACADEMIES.				UNINCOR. ACADEMIES AND PRIVATE SCHOOLS.				Town's share of School Fund received in 1865—how appropriated.
	Number.	How supported.	Length.		Salary of Principal.	Number.	Av'ge No. of Scholars.	Aggregate p'd for Tuition.	Number.	Av'ge No. of Scholars.	Aggregate p'd for Tuition.		
			Mos.	Days.									
Bellingham,	1	Taxation,	11	-	\$850 00	1	-	-	1	25	\$450 00	\$117 30	Schools.
Braintree,	1	"	12	-	2,400 00	1	-	-	1	70	6,000 00	189 95	"
Brookline,	1	-	-	-	-	1	-	-	4	-	-	218 40	Treasury.
Canton,	1	Taxation,	10	-	800 00	1	-	-	1	-	-	199 20	Schools.
Cohasset,	1	"	10	-	1,500 00	1	-	-	2	35	-	132 00	"
Dedham,	1	"	10.08	-	1,800 00	1	-	-	5	170	6,000 00	300 90	"
Dorchester,	1	-	-	-	-	1	-	-	1	-	-	425 40	"
Dover,	1	Taxation,	8.15	-	1,000 00	1	-	-	1	40	1,000 00	95 40	"
Foxborough,	1	-	-	-	-	1	-	-	1	-	-	155 10	"
Franklin,	1	-	-	-	-	1	-	-	1	-	-	142 80	"
Medfield,	1	-	-	-	-	1	-	-	1	-	-	98 45	"
Medway,	1	-	-	-	-	1	-	-	2	105	450 00	172 05	"
Milton,	2	Taxation,	10	-	900 00	1	20	\$900 00	1	12	1,000 00	151 05	"
Needham,	1	"	10.09	-	1,130 00	1	-	-	1	65	425 00	154 80	"
Quincy,	1	-	-	-	-	1	-	-	1	-	-	307 50	"

[illegible]

## PLYMOUTH COUNTY.

TOWNS.	Population - State Census, 1865.	Valuation-1865.	PUBLIC SCHOOLS.		No. of Scholars of all ages in the Public Schools.		Average attendance in the Public Schools.		Persons under 5 years of age who attend the Public Schools.	Persons over 15 years of age who attend the Public Schools.	No. in the State be- tween 5 and 15 years of age May 1, 1865.	NO. OF TEACHERS IN PUBLIC SCHOOLS.				Number of different persons employed as Teachers in Public Schools.												
			34	16	7	13	18	5				8	9	4	3	1	2	5	14	1								
																					In Sum'r.	In Winter.	In Sum'r.	In Winter.	Male.	Fem.	Male.	Fem.
Abington, .	8,576	\$3,059,801	34	2,012	1,707	1,676	1,394	78	103	2,103	4	34	4	31	6	44												
Bridgewater, .	4,196	1,992,756	16	692	634	459	496	12	55	787	3	14	4	13	6	19												
Carver, .	1,059	459,583	7	195	202	155	173	15	43	191	1	8	1	6	1	14												
Duxbury, .	2,377	1,006,782	13	463	416	380	381	19	45	498	1	11	2	11	2	14												
E. Bridgewater, .	2,977	1,136,937	18	669	594	528	520	22	96	682	4	12	4	10	5	14												
Halifax, .	739	354,039	5	128	128	103	106	8	13	132	1	5	2	3	2	8												
Hanover, .	1,545	747,591	8	300	279	251	222	10	12	316	1	8	1	12	1	12												
Hanson, .	1,195	458,168	9	257	241	216	197	16	40	268	1	9	1	9	1	10												
Hingham, .	4,176	2,391,437	13	623	645	461	492	-	20	683	3	10	4	9	5	11												
Hull, .	260	150,864	1	32	44	26	33	5	8	53	1	1	1	1	1	1												
Kingston, .	1,626	1,334,298	8	298	301	248	258	5	38	294	1	8	5	3	5	8												
Lakeville, .	1,110	571,124	11	196	207	152	154	16	29	187	1	11	1	9	1	16												
Marion, .	960	459,009	6	212	222	171	184	11	38	193	1	5	1	5	2	5												
Marshfield, .	1,810	853,777	10	341	389	284	334	7	50	377	1	10	1	9	1	12												
Mattapoisett, .	1,451	540,118	9	172	217	144	179	8	52	289	1	5	4	3	4	7												



## BARNSTABLE COUNTY.

Barnstable, .	4,913	\$2,265,407	29	738	1,104	602	909	16	157	995	2	17	8	20	8	21
Brewster, .	1,459	801,452	8	288	294	192	249	6	57	305	-	7	1	7	1	9
Chatham, .	2,637	1,100,543	14	594	641	421	488	83	182	626	1	13	1	14	1	16
Dennis, .	8,512	1,181,339	16	772	883	549	705	28	151	772	-	16	6	11	6	22
Eastham, .	757	219,948	4	116	169	91	142	7	37	142	-	4	3	1	3	5
Falmouth, .	2,294	1,375,661	18	896	416	315	494	8	78	431	-	16	5	13	5	20
Harwich, .	3,540	1,025,217	19	694	860	510	637	38	113	328	-	19	6	13	6	25
Orleans, .	1,586	558,858	9	286	391	211	317	4	113	294	-	8	4	5	4	9
Provincetown, .	3,475	1,576,145	10	585	756	480	633	-	145	705	4	10	4	12	8	14
Sandwich, .	4,105	1,669,105	24	745	684	536	539	7	165	915	1	19	8	12	10	28
Truro, .	1,448	361,717	9	254	333	215	284	18	90	291	-	6	6	3	6	7
Wellfleet, .	2,298	700,165	15	424	596	316	469	12	137	540	-	12	8	7	8	14
Yarmouth, .	2,465	1,440,641	9	435	489	328	393	-	103	522	-	9	3	9	4	12
Totals, . .	34,489	\$14,276,198	184	6,277	7,316	4,766	6,204	172	1,478	7,366	10	156	63	127	70	202
Marshpee, District, . . . . .			2	46	56	29	41	8	4	70	-	2	2	-	2	2

## PLYMOUTH COUNTY—CONTINUED.

TOWNS.	AGGREGATE LENGTH OF THE PUBLIC SCHOOLS.				Average length as re- turned.	Average wages of Male Teachers per month, including the value of board.	Average wages of Female Teachers per month, including the value of board.	Raised by taxes for wages of Teachers, fuel, care of rooms, for the school-year 1885-6.	Amount of board, fuel, etc., voluntarily con- tributed for Public Schools.	Expense of Superin- tendence and print- ing School Reports.	Amt of School Funds, only for the support of Academies and Schools.	Income from same.	Income of Funds, as of Surplus Revenue, ap- propriated to schools, that may be so appro- priated or not.
	Summer.	Winter.	Total.										
	Mos. Days.	Mos. Days.	Mos. Days.										
Abington, .	147.07	147.08	294.15	8.14	\$80 00	\$22 85	\$10,000 00	\$200 00	\$700 00		\$5,300 00	\$318 00	
Bridgewater, .	66	46	112	7	47 33	25 03	3,500 00	150 00	180 50		1,000 00	100 00	
Carver, .	27.15	22.05	50	6.12	45 00	38 80	800 00	81 00	82 00		20,000 00	1,000 00	
Duxbury, .	45.01	38.05	81.06	7.01	33 50	19 88	2,000 00	32 00	200 00				
E. Bridgewater, .	47.01	47.01	94.02	8.04	48 33	26 50	3,000 00		220 75				
Halifax, .	13	15.04	28.04	5.13	35 50	19 91	700 00		73 50				
Hanover, .	23.10	23.10	47	8.14	-	21 45	1,400 00						
Hanson, .	25.11	27.10	53.01	5.05	-	18 40	1,000 00						
Hingham, .	71.05	71.05	142.10	11	48 75	26 70	5,426 99		70 00		34,869 35	2,348 40	
Hull, .	5	3	8	8	-	25 00	325 00		385 05				
Kingston, .	42.17	24	66.17	8.07	48 00	25 50	2,150 00		21 50				
Lakeville, .	29	24.08	53.08	4.18	38 00	17 80	1,000 00		120 00				
Marion, .	15	17	32	5.07	50 00	17 15	800 00		58 65				
Marshfield, .	31.10	37.09	68.19	7.05	40 00	22 54	1,600 00	25 00	99 00				
									65 00				

## BARNSTABLE COUNTY—CONTINUED.

Barnstable, .	52.05	85.15	138	6.07	\$58 60	\$30 20	\$7,000 00	\$212 00	\$356 00	\$2,000 00	\$146 00	-
Brewster, .	23.15	26.05	50	8.10	50 00	27 00	1,800 00	-	80 00	-	-	-
Chatham, .	98	31.10	129.10	9.05	73 17	21 95	3,500 00	-	221 40	-	-	-
Dennis, .	102.15	50.11	153.06	8.04	45 83	22 35	3,000 00	1,455 75	61 50	-	-	-
Eastham, .	14	10.10	24.10	6.03	46 33	18 46	700 00	-	66 50	-	-	-
Falmouth, .	56	56	112	6.04	35 59	19 83	2,500 00	358 00	179 00	10,000 00	400 00	-
Harwich, .	58	82.05	140.05	7.06	47 05	17 45	3,500 00	100 00	125 00	-	-	-
Orleans, .	40	27	67	8	55 00	20 00	1,800 00	-	75 00	-	-	-
Provincetown, .	65	35	100	10	68 75	17 50	5,000 00	-	95 00	-	-	-
Sandwich, .	71.10	71.10	143	6	54 00	23 25	5,000 00	4 00	167 01	2,000 00	120 00	-
Truro, .	18	27	45	6	46 00	16 00	1,400 00	-	90 00	-	-	-
Wellfleet, .	48	45	93	6.10	55 00	20 00	2,500 00	-	80 00	-	-	\$106 00
Yarmouth, .	40.10	40.10	81	9	75 00	33 44	3,500 00	-	125 00	16,000 00	960 00	-
Totals, .	3.15	3.04	6.19	-	\$54 64	\$22 11	\$41,200 00	\$2,129 75	\$1,721 41	\$30,000 00	\$1,628 00	\$106 00
Marshpee, Dist., .	8.16	3.10	7.06	7.06	\$40 00	\$28 00	\$125 00	-	\$15 00	-	-	-



PLYMOUTH COUNTY—CONCLUDED.

TOWNS.	HIGH SCHOOLS.				INCORP. ACADEMIES.				UNINCORP. ACADEMIES AND PRIVATE SCHOOLS.				Town's share of School Fund received in 1896—how appropriated.
	Number.	How supported.	LENGTH.		Salary of Principal.	Number.	Av'ge No. of Scholars.	Aggregate p'd for Tuition.	Number.	Av'ge No. of Scholars.	Aggregate p'd for Tuition.		
			Mos.	Days.									
Abington, .	4	Taxation, .	*10		*\$800 00	1	70	\$1,680 00	1	32	\$450 00	—	Town's share of School Fund received in 1896, according to No. children between 5 and 15 May 1, 1896.
Bridgewater, .	1	—	—		—	1	—	—	—	—	—	—	—
Carver, .	1	—	—		—	1	—	—	—	—	—	—	—
Duxbury, .	1	—	—		—	1	—	—	—	—	—	—	—
E. Bridgewater, .	1	Taxation, .	8		500 00	1	—	—	3	95	160 41	177 30	—
Halifax, .	1	—	—		—	1	32	700 00	—	45	1,000 00	122 40	—
Hanover, .	1	—	—		—	1	60	1,500 00	1	26	400 00	177 45	—
Hingham, .	1	—	—		—	1	—	—	—	—	—	115 20	—
Hull, .	1	—	—		—	1	—	—	1	12	720 00	82 95	—
Kingston, .	1	—	—		—	1	—	—	1	—	—	119 10	—
Lakeville, .	1	—	—		—	1	—	—	—	—	—	103 05	—
Marion, .	1	—	—		—	1	—	—	5	161	350 00	103 95	—
Mashpee, .	1	—	—		—	1	—	—	—	—	—	131 55	—



## DUKES COUNTY.

TOWNS.	Population - State Census, 1865.	Valuation-1865.	PUBLIC SCHOOLS.				No. of Scholars of all ages in the Public Schools.		Average attendance in the Public Schools.		Persons under 5 years of age who attend the Public Schools.	Persons over 15 years of age who attend the Public Schools.	No. in the State be- tween 5 and 15 years of age May 1, 1865.	NO. OF TEACHERS IN PUBLIC SCHOOLS.				Number of different persons employed as Teachers in Public Schools.					
			In Sum'r.		In Winter.		In Sum'r.	In Winter.	Males.	Fem.				Males.	Fem.	Males.	Fem.						
			82	104	64	79												2	5	94	3	2	2
Chilmark, .	547	\$350,801	3	82	104	64	79	2	5	94	-	3	2	2	2	2	4						
Edgartown, .	1,846	1,035,467	8	337	304	283	240	11	79	375	2	10	1	11	2	2	11						
Gosnold, .	108	112,993	1	16	12	12	7	-	5	19	1	-	1	1	1	1	-						
Tisbury, .	1,699	684,714	9	333	323	251	256	8	50	350	4	7	6	6	7	7	9						
Totals, .	4,200	\$2,183,975	21	768	743	610	582	21	139	838	7	20	10	19	12	12	24						

## NANTUCKET COUNTY.

Nantucket, .	4,830	\$2,152,568	10	802	754	611	604	-	101	753	3	10	3	18	3	26
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	Summer. Mo. Days.	Winter. Mo. Days.	Total. Mo. Days.	Average Teachers including of board.	Average wage month.	Raised by schools, wages over board, rooms, year 1885.	Amount of ex. volun- tarily Schools.	Expense tendency behav-	Am't of Sec- the income can be a only for of Acad. Schools.	Income from	Income of Surplus & properties that may printed on
Chilmark, .	9	9.10	18.10	\$45.00	\$20.00	\$550.00	-	\$47.00	-	-	-
Edgartown, .	22	34.10	56.10	69.02	18.80	2,200.00	-	150.00	-	-	-
Gosnold, .	8	2.10	5.10	28.00	-	100.00	\$86.00	-	-	-	-
Tisbury, .	23.08	28.08	51.16	38.17	17.29	1,800.00	-	75.00	\$5,000.00	\$250.00	-
Totals, .	2.15	8.11	6.06	\$45.05	\$18.69	\$4,650.00	\$86.00	\$272.00	\$5,000.00	\$250.00	-

## NANTUCKET COUNTY—CONTINUED.

Nantucket, .	6.12	5.08	12	10.15	\$69.84	\$19.38	\$8,000.00	-	\$115.00	\$25,000.00	\$1,500.00	-
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DUKES COUNTY—CONCLUDED.

TOWNS.	HIGH SCHOOLS.					INCORP. ACADEMIES.					UNINCORP. ACADEMIES AND PRIVATE SCHOOLS.					Town's share of School Fund received in 1866, according to No. chil- dren between 5 and 15 May 1, 1865.	Town's share of School Fund received in 1865—how appropriated.
	Number.	How supported.	LENGTH.		Salary of Principal.	Number.	Av'ge No. of Scholars.	Aggregate p'd for Tuition.	Number.	Av'ge No. of Scholars.	Aggregate p'd for Tuition.	Number.	Av'ge No. of Scholars.	Aggregate p'd for Tuition.			
			Mos.	Days.													
Chilmark, .	1	Taxation, .	8.10	-	\$1,000 00	1	1	-	4	125	\$600 00	1	125	\$800 00	\$89 10	Schools.	
Edgartown, .	1	-	-	-	-	1	1	-	1	1	-	1	1	-	131 25	"	
Gosnold, .	1	-	-	-	-	1	1	-	1	1	-	1	1	-	77 85	"	
Tisbury, .	1	-	-	-	-	1	25	\$300 00	4	1	300 00	4	1	300 00	127 50	"	
Totals, .	1		-	-	\$1,000 00	1	25	\$300 00	8	125	\$900 00	8	125	\$900 00	\$425 70		

NANTUCKET COUNTY—CONCLUDED.

Nantucket, .	1	Taxation, .	10.15	\$1,000 00	1	37	\$260 00	1	32	\$296 00	\$187 95	Schools.
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	Popu- Q	PUBL.	In Sum	In Win	In Sum	In Win	Person of a the I	Person of a the I	No. in twelve of ag	
Suffolk, . .	208,219	\$387,276,700 00	829	30,431	80,514	27,901	28,054	7	1,745	38,465
Essex, . .	171,192	90,393,467 00	516	29,465	29,214	23,175	23,270	408	2,058	34,118
Middlesex, . .	220,618	155,324,723 00	699	45,906	45,869	34,562	34,995	670	3,836	44,695
Worcester, . .	162,923	80,857,766 00	772	31,444	31,439	24,737	25,561	968	4,046	33,897
Hampshire, . .	39,199	20,510,994 00	255	7,323	7,667	5,829	6,254	247	1,016	8,044
Hampden, . .	64,438	33,253,177 00	296	11,124	10,666	8,318	8,455	352	1,038	12,007
Franklin, . .	31,342	13,048,120 00	269	5,904	6,531	4,920	5,445	322	1,123	6,664
Berkshire, . .	56,966	27,937,444 00	310	10,717	10,924	7,686	8,114	446	837	11,940
Norfolk, . .	116,334	95,097,794 00	463	22,082	21,518	17,725	17,624	433	1,800	24,607
Bristol, . .	89,505	59,464,668 00	323	16,217	16,302	12,269	12,499	347	1,670	18,532
Plymouth, . .	63,074	27,932,058 00	310	12,388	11,872	9,774	9,656	387	1,231	13,327
Barnstable,* . .	34,489	14,276,198 00	186	6,323	7,672	4,795	6,245	175	1,482	7,436
Dukes, . .	4,200	2,183,975 00	21	768	743	610	582	21	139	838
Nantucket, . .	4,830	2,152,568 00	10	802	754	611	604	-	101	753
Totals, . .	1,267,329	\$1,009,709,652 00	4,759	230,894	231,685	182,912	187,358	4,783	22,122	255,323

\* Including Marshpee District.



## RECAPITULATION—CONTINUED.

COUNTIES.	NO. OF TEACHERS IN PUBLIC SCHOOLS.				Average length of Public Schools.		Average wages of Male Teachers per month, including the value of board.	Average wages of Female Teachers per month, including the value of board.	Raised by taxes for schools, including wages of Teachers, board, fuel, care of fires, and school-rooms, for the school-year 1883-4.	Amount of board, fuel, &c., voluntarily contributed for Public Schools.	Amt of School Funds, the income of which can be appropriated only for the support of Academies and Schools.	Income from same.
	MALES.	FEMALES.	WINTER.	SUMMER.	Mos.	Days.						
Suffolk, . . .	123	1,170			11.03		\$123 87	\$39 12	\$495,419 29	-	\$7,000 00	\$492 15
Essex, . . .	173	1,092			9.04		64 97	25 79	226,480 23	\$871 00	221,735 15	12,052 30
Middlesex, . .	219	1,655			8.13		79 32	27 76	403,432 50	1,448 50	168,134 29	9,396 75
Worcester, . .	203	1,428			6.12		49 48	24 35	189,764 27	1,962 19	62,132 68	4,152 95
Hampshire, . .	56	467			6.14		40 24	22 58	43,881 00	5,639 80	127,414 08	8,627 76
Hampden, . . .	60	581			7.11		50 52	22 29	83,453 00	5,454 87	85,630 06	5,119 06
Franklin, . . .	50	460			5.08		38 77	21 23	32,212 61	4,970 14	29,868 83	2,292 12
Berkshire, . .	70	547			7		40 52	22 06	45,921 60	9,695 41	20,531 38	1,172 20
Norfolk, . . .	144	842			9.07		80 54	28 66	231,002 29	371 00	178,315 99	12,310 08
Bristol, . . .	98	729			7.18		49 16	23 58	118,233 61	1,466 20	43,676 40	2,633 10

	Incom- sur- pro- that pri- HIG	Num	Avg Sch	Aggr for	Num	Avg Sch	Aggr for	Num	Avg Sch	Aggr for	Town Fund acco- dren May	Expen- tend
Suffolk, . . .	-	2	-	-	†	-	-	64	1,968	\$192,189 00	\$6,059 73	\$8,625 50
Essex, . . .	\$1,320 33	20	517	\$10,348 00	7	517	\$10,348 00	89	3,646	31,735 67	7,667 70	6,836 67
Middlesex, . .	-	33	490	24,964 00	7	490	24,964 00	90	2,337	54,154 00	10,573 70	12,967 66
Worcester, . .	569 37	25	169	10,793 00	5	169	10,793 00	74	2,073	25,822 30	9,240 74	9,636 40
Hampshire, . .	236 98	6	400	30,955 25	4	400	30,955 25	21	348	5,565 50	2,922 45	2,303 86
Hampden, . . .	183 00	6	439	12,591 50	3	439	12,591 50	26	596	15,562 00	3,376 05	4,362 10
Franklin, . . .	347 54	4	128	1,933 06	4	128	1,933 06	31	751	5,464 30	2,926 68	1,793 97
Berkshire, . .	633 41	5	105	2,625 00	3	105	2,625 00	50	942	18,854 00	3,988 71	2,044 39
Norfolk, . . .	665 89	15	520	900 00	3	520	900 00	44	1,212	28,123 00	5,130 60	7,223 62
Bristol, . . .	600 20	5	265	14,815 50	5	265	14,815 50	48	1,001	17,371 00	4,204 80	5,211 35
Plymouth, . .	-	8	362	7,580 00	6	362	7,580 00	32	851	7,610 41	3,856 44	4,621 64
Barnstable,* .	106 00	3	107	750 00	3	107	750 00	19	505	2,800 00	2,079 90	1,786 41
Dukes, . . .	-	1	25	300 00	1	25	300 00	8	125	900 00	425 70	272 00
Nantucket, . .	-	1	37	260 00	1	37	260 00	1	32	296 00	187 95	115 00
Totals, . . .	\$4,662 72	134	3,564	\$118,815 31	52	3,564	\$118,815 31	506	16,387	\$226,447 18	\$62,641 15	\$67,750 57

\* Including Marshpee District.

† Some 3,890 children are educated in Charitable Institutions.



## RETURNS OF SCHOOLS IN STATE CHARITABLE AND REFORMATORY INSTITUTIONS.

STATE INSTITUTIONS.	No. of Scholars		No of Scholars of all ages in all the Schools.		Average attendance in all the Schools.		Persons under 6 years of age who attend School.		Persons over 15 years of age who attend School.		Number between 5 and 15 years of age May 1, 1865.		No. of Teachers.				Number of different Teachers.		Length of Schools.		Wages of Teachers per Month.	
	In term including Summer.	In term including Winter.	In Sum'r.	In Winter.	Persons under 6 years of age who attend School.	Persons over 15 years of age who attend School.	Number between 5 and 15 years of age May 1, 1865.	SUMMER.		WINTER.		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.			
								Males.	Females.	Males.	Females.											
Almshouse at Bridgewater,	2	121	138	110	130	7	5	109	1	2	1	2	2	1	2	10	-	\$200 00*				
“ at Tewksbury, .	2	155	220	122	170	20	15	159	1	3	1	3	1	4	12	\$33 00†	13 00†					
“ at Monson, .	5	481	365	267	266	20	6	318	1	6	1	6	1	9	12	-	20 00†					
Indus. School at Lancaster,	5	190	176	147	140	1	61	86	1	5	1	5	1	9	12	-	20 83					
Nautical School, .	2	333	285	247	165	1	167	60	2	1	1	1	2	12	183 00	-						
Reform Sch'l at Westboro',	1	325	325	325	325	1	20	307	2	6	2	6	4	9	12	500 00\$	250 00\$					

## GRADUATED TABLES—FIRST SERIES.

Table shows the sums appropriated by the several cities and towns, for the education of each child between 5 and 15 years of age, of the Surplus Revenue and of other funds held in a similar manner. The amount appropriated to schools is added to the sum raised by taxes, and these are reckoned as appropriations. The income of such funds was given and are held on the express condition that their appropriation to schools, is not included. Such an appropriation, being necessary to retaining the funds, is no evidence of the town holding the trust. But if a town appropriates the income of its Public Schools, which may be so appropriated or not, at the discretion of the town, or when the town has a legal right to use such income in ordinary expenses, then such an appropriation is as really a contribution to Schools as an equal sum raised by taxes. On this account the Surplus Revenue, and sometimes other funds, are to be distinguished from funds as generally held. The income of the one may be appropriated or not, at the pleasure of the town; the income of the other is appropriated to schools by the condition of the donation. Funds of the kind usually donations made to furnish means of education in addition to that raised by a reasonable taxation. Committees are expected, in their reports, to make this distinction in relation to School Funds.

Contributions are not included in the amount which is divided, in the sum appropriated to each child. In many towns such contributions, however liberal, are not permanent, and cannot be relied upon as permanent. They are often raised and applied to favor particular districts or classes of scholars, and not to benefit equally all that attend the schools.

Besides, the value of board and fuel gratuitously furnished is only the mere estimate of individuals, and is therefore uncertain; that raised by taxes, being in money, has a fixed and definite value, and is of record. Still, the contributions voluntarily made are exhibited in a column of the Table, as necessary to a complete statement of the sums appropriated by the towns for the education of their children.

The Table exhibits the rank of each city or town in the State, in respect to its appropriation of money to its schools, as compared with other towns for the year 1865-6, also its rank in a similar scale for 1864-5. The sum appropriated to each child between 5 and 15. Brookline is first on the list.

## GRADUATED TABLES—FIRST SET

*Table, showing the comparative amount of Money of different Towns in the State, for the education of each Town, between the ages of 5 and 15 years.\**

For 1864-5.	For 1865-6.	TOWNS.	Sum appropriated by towns for each child between 5 and 15 years of age.	Amount raised by taxes for the support of Schools.	Income of Surplus Revenue appropriated to Schools.	TOTAL
1	1	BROOKLINE, .	\$20 76.2	\$19,848 88	-	
2	2	Nahant, . .	19 71.8	1,400 00	-	
3	3	Dorchester, .	15 62.5	36,500 00	-	
7	4	Brighton, . .	14 05.9	10,558 13	-	
12	5	Milton, . . .	13 80.7	7,000 00	-	
15	6	W. Cambridge,	13 78	7,510 00	-	
5	7	Belmont, . .	13 60	3,400 00	-	
9	8	Newton, . . .	13 35.1	26,408 09	-	
4	9	Boston, . . .	13 16.1	459,365 29	-	
25	10	Watertown, .	13 10.1	9,275 50	-	
8	11	Somerville, .	12 79.7	24,800 00	-	
10	12	West Roxbury,	12 54.3	15,591 20	-	
6	13	North Chelsea,	11 04	1,854 00	-	
20	14	Charlestown, .	10 80.8	53,486 84	-	
26	15	Nantucket, . .	10 62.4	8,000 00	-	
13	16	New Bedford,	10 62	40,910 14	-	
21	17	Roxbury, . .	10 62	64,877 99	-	
32	18	Swampscott, .	10 30.9	3,000 00	-	
17	19	Cambridge, .	10 28.5	71,984 61	-	
16	20	Dedham, . . .	10 21.2	15,380 00	-	
19	21	Concord, . . .	10 16.9	4,200 00	-	
18	22	Chelsea, . . .	10 11	33,000 00	-	
60	23	Needham, . .	10 05.4	5,348 82	-	
11	24	Lexington, . .	10 04.8	4,200 00	-	
51	25	Chicopee, . .	9 76.2	12,710 00	-	
14	26	Lowell, . . .	9 75.6	50,000 00	-	
39	27	Springfield, .	9 75.5	36,139 00	\$81 00	36,2
29	28	Plymouth, . .	9 70.1	12,000 00	-	
27	29	Medford, . . .	9 65.7	11,211 78	-	
77	30	Lunenburg, . .	9 36.4	1,648 00	-	
50	31	Fairhaven, . .	9 31.7	4,500 00	-	
37	32	Winthrop, . .	9 16	1,200 00	-	
34	33	Melrose, . . .	9 15.7	5,594 77	-	

\* Compare the rank of towns in this Table with their rank in the next or showing the percentage of taxable property appropriated for Schools.



NAME.	Sum appropriated by law for each child between 5 and 15 years of age.	Amount raised by taxes for the support of Schools.	Income of Surplus Revenue appropriated to Schools.	TOTAL.	No. of Children between 5 and 15 years of age.	Amount contributed for board and fuel.
...	\$9 10.9	\$14,000 00	-	-	1,537	-
...	8 98.2	35,218 82	-	-	3,921	-
ster,	8 94	4,300 00	-	-	481	-
old,	8 84.7	5,600 00	-	-	633	\$200 00
ugh,	8 80.1	4,700 00	-	-	534	-
...	8 47.5	2,000 00	-	-	236	-
and,	8 24.2	1,500 00	-	-	182	-
er,	8 10.8	48,512 40	-	-	5,983	-
...	7 98.4	12,375 00	-	-	1,550	-
n,	7 94.6	5,426 99	-	-	683	-
...	7 87.9	1,300 00	-	-	165	40 00
...	7 87.4	5,000 00	-	-	635	100 00
...	7 84.3	4,000 00	-	-	510	85 00
n,	7 83.6	10,696 45	-	-	1,365	-
ce,	7 81.7	28,241 83	-	-	3,613	-
y,	7 79.9	1,762 57	-	-	226	83 00
on,	7 69.2	800 00	-	-	104	-
...	7 59.5	1,200 00	-	-	158	-
...	7 52.7	2,100 00	-	-	279	-
...	7 48.1	3,000 00	-	-	401	-
...	7 47.3	3,205 96	-	-	429	-
d,	7 47	8,000 00	-	-	1,071	-
anvers,	7 44.7	10,708 00	\$335 17	11,043 17	1,483	-
...	7 42.6	1,500 00	-	-	202	561 00
er,	7 40.7	2,000 00	-	-	270	-
...	7 40.7	1,800 00	-	-	243	-
r,	7 36.6	4,000 00	-	-	543	-
m,	7 33	4,200 00	-	-	578	-
adow,	7 32.6	2,000 00	-	-	273	24 50
n,	7 31.3	2,150 00	-	-	294	-
ham,	7 22.2	6,500 00	-	-	900	70 00
n,	7 21.6	3,500 00	-	-	485	-
reading,	7 17.4	5,000 00	-	-	697	80 00
...	7 14.3	750 00	-	-	105	-
etown,	7 09.2	5,000 00	-	-	705	-
ich,	7 08	800 00	-	-	113	-
ble,	7 08.5	7,000 00	-	-	995	212 00
...	7 02.4	30,687 42	-	-	4,369	-
ypport,	6 96.6	20,856 29	-	-	2,994	-
...	6 90	1,000 00	-	-	145	-
et,	6 87.3	2,000 00	-	-	291	-
l,	6 86.8	1,875 00	-	-	273	-
rough,	6 86.2	700 00	-	-	102	12 00
t,	6 84.2	2,600 00	-	-	880	-
...	6 71.5	4,600 00	-	-	685	-
aintree,	6 71.1	1,000 00	-	-	149	-
th,	6 70.5	3,500 00	-	-	522	-
idge,	6 67.8	4,000 00	-	-	599	-
rough,	6 64.7	2,800 00	-	-	846	50 00



For 1864-5.	For 1863-4.	TOWNS.	Sum appropriated by towns for each child between 5 and 15 years of age.	Amount raised by taxes for the support of schools.	Income of Surplus Revenue appropriated to schools.	TO
55	83	Barre, . . .	\$6 62.7	\$3,300 00	-	
70	84	Beverly, . . .	6 62.5	7,500 00	-	
76	85	Fitchburg, . . .	6 58.7	11,000 00	-	
72	86	Holliston, . . .	6 55.7	4,400 00	-	
91	87	Leominster, . . .	6 53.5	3,979 96	-	
162	88	Brookfield, . . .	6 51	2,500 00	-	
73	89	Fall River, . . .	6 48.4	27,000 00	-	
74	90	Gloucester, . . .	6 36.4	14,950 00	-	
83	91	Woburn, . . .	6 31.6	9,500 00	-	
22	92	Medfield, . . .	6 30	900 00	-	
99	93	Holyoke, . . .	6 28.9	7,000 00	-	
79	94	Haverhill, . . .	6 23.6	12,000 00	\$521 18	12,5
102	95	Georgetown, . . .	6 22	2,550 00	-	
62	96	Littleton, . . .	6 22	1,300 00	-	
31	97	Clinton, . . .	6 21.4	5,573 70	-	
150	98	Bradford, . . .	6 19.2	2,000 00	-	
106	99	Hadley, . . .	6 14.7	2,600 00	-	
113	100	Hull, . . .	6 13.2	325 00	-	
97	101	Orleans, . . .	6 12.2	1,800 00	-	
140	102	Lynnfield, . . .	6 10.7	800 00	-	
191	103	Scituate, . . .	6 03.9	2,500 00	-	
118	104	No Andover, . . .	6 02.4	3,000 00	-	
138	105	Hardwick, . . .	6 02	1,800 00	-	
108	106	Northampton, . . .	6 00.6	10,000 00	-	
136	107	Sudbury, . . .	6 00	1,500 00	-	
194	108	Marlborough, . . .	5 97.7	9,700 00	-	
129	109	Monterey, . . .	5 94.7	800 00	104 00	9
246	110	Douglas, . . .	5 91	2,500 00	-	
87	111	Weymouth, . . .	5 90.2	10,500 00	-	
143	112	Brewster, . . .	5 90.1	1,800 00	-	
124	113	Dover, . . .	5 88.2	800 00	-	
120	114	Edgartown, . . .	5 86.7	2,200 00	-	
116	115	Dalton, . . .	5 85.9	1,500 00	-	
179	116	Chilmark, . . .	5 85.1	550 00	-	
132	117	Essex, . . .	5 84.8	2,000 00	-	
156	118	Falmouth, . . .	5 80	2,500 00	-	
125	119	Upton, . . .	5 79.8	2,058 25	-	
94	120	Danvers, . . .	5 75.9	6,300 00	300 00	6,6
184	121	Brimfield, . . .	5 75.2	1,300 00	-	
180	122	Deerfield, . . .	5 72.7	4,054 71	-	
100	123	Berkley, . . .	5 71.4	1,000 00	-	
59	124	Sherborn, . . .	5 71.4	1,200 00	-	
96	125	South Hadley, . . .	5 69.5	2,500 00	-	
104	126	Rochester, . . .	5 68.7	1,200 00	-	
88	127	Wayland, . . .	5 64.9	1,350 00	-	
149	128	Franklin, . . .	5 64.7	2,552 40	-	
167	129	Chatham, . . .	5 60	3,500 00	-	
158	130	Charlton, . . .	5 59	2,090 49	-	
117	131	Sterling, . . .	5 57.8	1,800 00	79 95	1,8

VNS.	Sum appropriated by towns for each child between 5 and 15 years of age.	Amount raised by taxes for the support of Schools.	Income of Surplus Revenue appropriated to Schools.	TOTAL.	No. of Children between 5 and 15 years of age.	Amount contributed for board and fuel.
ble, . . .	\$5 55.6	\$500 00	-	-	90	\$27 00
y, . . .	5 55.6	1,000 00	-	-	180	145 00
ham, . . .	5 55.6	1,600 00	-	-	288	36 00
eton, . . .	5 55.6	2,500 00	-	-	450	-
k, . . .	5 54.2	545 14	\$264 00	\$809 14	146	12 00
head, . . .	5 51	8,000 00	-	-	1,452	-
, . . .	5 51	700 00	-	-	127	-
ck, . . .	5 49.5	900 00	50 68	950 68	173	-
d, . . .	5 49 1	1,900 00	-	-	346	-
ich, . . .	5 46 4	5,000 00	-	-	915	4 00
ham, . . .	5 46.3	1,400 00	140 63	1,540 63	282	-
ca, . . .	5 45.5	1,800 00	-	-	330	-
n, . . .	5 45.5	1,800 00	-	-	330	-
ct, . . .	5 45 5	600 00	-	-	110	175 00
ookfield, . . .	5 45	2,000 00	-	-	367	-
le, . . .	5 44.4	1,900 00	-	-	349	125 00
umpton, . . .	5 44.2	800 00	-	-	147	382 00
, . . .	5 43.5	4,500 00	-	-	828	50 00
ester, . . .	5 41.1	2,040 00	-	-	377	-
n, . . .	5 38.9	17,515 30	-	-	3,250	-
, . . .	5 38.6	781 00	-	-	145	-
lle, . . .	5 34.8	1,000 00	-	-	187	-
, . . .	5 33.3	800 00	-	-	150	375 00
, . . .	5 32.7	3,500 00	-	-	657	-
ham, . . .	5 31.3	3,000 00	841 86	3,341 86	629	-
x, . . .	5 30.3	700 00	-	-	132	-
l, . . .	5 29.1	1,000 00	-	-	189	-
, . . .	5 28.6	6,000 00	-	-	1,135	27 00
rtown, . . .	5 28.2	3,000 00	-	-	568	209 00
end, . . .	5 27.7	2,000 00	-	-	379	56 00
d, . . .	5 26.3	100 00	-	-	19	66 00
, . . .	5 24.5	1,500 00	-	-	288	120 00
ort, . . .	5 24.4	3,400 00	98 00	3,498 00	667	-
, . . .	5 23 6	3,100 00	-	-	592	-
ge, . . .	5 21.7	3,150 00	220 00	3,370 00	646	-
orough, . . .	5 20.8	3,000 00	-	-	576	16 00
tuante, . . .	5 20	1,700 00	-	-	327	-
d, . . .	5 19	1,500 00	-	-	289	-
, . . .	5 18.1	2,000 00	-	-	386	-
, . . .	5 14.3	1,800 00	-	-	350	-
y, . . .	5 14.3	1,800 00	-	-	350	-
n, . . .	5 12.7	4,220 00	86 40	4,306 40	840	13 00
ton, . . .	5 12.3	1,250 00	-	-	244	21 00
, . . .	5 10.9	700 00	-	-	137	270 00
, . . .	5 10.3	1,954 47	-	-	388	-
ford, . . .	5 09.2	2,500 00	-	-	491	-
ry, . . .	5 07.3	4,500 00	-	-	887	-
ly, . . .	5 05	1,100 00	-	-	218	102 00
d, . . .	5 01	900 00	65 98	965 98	193	-



For 1864-5.	For 1865-6.	TOWNS.	Sum appropriated by towns for each child between 5 and 15 years of age.	Amount raised by taxes for the support of Schools.	Income of Surplus Revenue appropriated to Schools.
218	181	Randolph, . .	\$4 98.9	\$7,000 00	-
152	182	Sharon, . . .	4 97	1,228 00	\$183 43
130	183	Webster, . . .	4 93.9	2,850 00	-
134	184	Eastham, . . .	4 93	700 00	-
210	185	Westford, . . .	4 91.2	1,400 00	-
183	186	Boylston, . . .	4 90.2	750 00	-
240	187	Amesbury, . . .	4 88.4	4,000 00	-
121	188	Goshen, . . . .	4 87.8	400 00	-
242	189	Stoughton, . . .	4 83.7	5,500 00	-
148	190	Dartmouth, . . .	4 82.8	3,500 00	-
209	191	Wellfleet, . . .	4 82.6	2,500 00	106 00
315	192	Pittsfield, . . .	4 81.8	8,750 00	-
197	193	Truro, . . . .	4 81.1	1,400 00	-
170	194	Plainfield, . . .	4 80 8	500 00	-
165	195	Braintree, . . .	4 80.2	4,000 00	-
290	196	Wenham, . . . .	4 78.5	1,000 00	-
190	197	Worthington, . .	4 78.3	800 00	146 98
283	198	Shelburne, . . .	4 77.7	1,500 00	-
272	199	Alford, . . . .	4 76.2	300 00	-
202	200	Abington, . . .	4 75.5	10,000 00	-
271	201	Ludlow, . . . .	4 72.7	1,300 00	-
155	202	Hamilton, . . .	4 70.6	800 00	-
157	203	Bolton, . . . .	4 68.9	1,524 00	-
255	204	Newbury, . . . .	4 67.6	1,300 00	-
82	205	Boxborough, . .	4 67.3	500 00	-
216	206	Hawley, . . . .	4 66.7	700 00	-
217	207	Salisbury, . . .	4 66	3,500 00	-
215	208	Montgomery, . .	4 65.1	400 00	-
256	209	Medway, . . . .	4 63.7	3,000 00	-
192	210	Spencer, . . . .	4 63.4	2,850 00	-
181	211	Mendon, . . . .	4 62.8	1,200 00	137 51
211	212	Middleborough, .	4 62.5	4,500 00	-
193	213	N. Bridgewater, .	4 59	7,000 00	-
115	214	Hubbardston, . .	4 58.9	1,528 00	-
182	215	Phillipston, . . .	4 57.5	700 00	-
250	216	Raynham, . . . .	4 55.9	1,500 00	-
123	217	Tewksbury, . . .	4 54.5	1,200 00	-
200	218	Chesterfield, . .	4 52	800 00	-
103	219	Ipswich, . . . .	4 51.2	3,100 00	-
195	220	Cummington, . .	4 50.5	1,000 00	-
198	221	Monson, . . . .	4 48.8	2,500 00	-
276	222	Montague, . . . .	4 47.6	1,500 00	165 12
243	223	Westminster, . .	4 45.1	1,500 00	-
161	224	Bridgewater, . .	4 44.7	3,500 00	-
145	225	New Salem, . . .	4 44.4	1,000 00	-
302	226	Rowley, . . . .	4 44.4	1,200 00	-
238	227	Shrewsbury, . . .	4 44.4	1,400 00	-
304	228	Williamstown, . .	4 44.1	2,500 00	-
237	229	Hanover, . . . .	4 43	1,400 00	-

TOWNS.	Sum appropriated by towns for each child between 5 and 15 years of age.	Amount raised by taxes for the support of Schools.	Income of Surplus Revenue appropriated to Schools.	TOTAL.	No. of Children between 5 and 15 years of age.	Amount contributed for board and fuel.
Borough,	\$4 42.8	\$1,200 00	-	-	271	\$125 00
d, . . .	4 42.1	10,000 00	-	-	2,262	-
d, . . .	4 40.5	1,000 00	-	-	227	-
d, . . .	4 40	550 00	-	-	125	828 00
gewater,	4 39.9	8,000 00	-	-	682	-
ewbury,	4 37	2,014 41	-	-	461	-
. . .	4 33.3	1,800 00	-	-	800	90 00
. . .	4 33.1	4,500 00	-	-	1,039	-
. . .	4 32.7	900 00	-	-	208	-
. . .	4 31.8	558 33	-	-	129	-
. . .	4 30.1	800 00	-	-	186	500 00
. . .	4 30	800 00	-	-	186	183 00
ndon,	4 28.1	2,500 00	-	-	584	-
. . .	4 27.4	1,500 00	-	-	351	-
. . .	4 26.5	1,800 00	-	-	422	72 00
. . .	4 24.8	2,400 00	-	-	565	-
eld,	4 24.4	1,600 00	-	-	377	25 00
h, . . .	4 22.7	3,500 00	-	-	828	100 00
ton,	4 20	1,000 00	-	-	238	411 00
ill, . . .	4 19.2	1,400 00	-	-	384	-
rd, . . .	4 18.8	800 00	-	-	191	1,011 00
. . .	4 18.8	800 00	-	-	191	81 00
nt, . . .	4 18.8	800 00	-	-	191	550 00
. . .	4 18	2,700 00	-	-	646	149 00
. . .	4 14.5	800 00	-	-	193	-
eld, . . .	4 14.3	1,500 00	\$66 00	\$1,566 00	378	50 00
. . .	4 13.1	975 00	-	-	236	-
. . .	4 11.8	700 00	-	-	170	60 00
. . .	4 10.3	500 80	-	-	122	289 00
ton,	4 09.6	4,100 00	-	-	1,001	-
boro', . .	4 09.5	1,200 00	327 52	1,527 52	378	805 80
. . .	4 09.4	700 00	-	-	171	524 00
. . .	4 09.1	2,700 00	-	-	660	700 00
gewater,	4 07.7	1,700 00	-	-	417	40 00
ampton, .	4 06	2,200 00	-	-	542	-
. . .	4 05.4	600 00	-	-	148	213 00
okfield,	4 03.7	3,500 00	-	-	867	-
d, . . .	4 03.6	2,000 00	115 00	2,115 00	524	950 00
. . .	4 03.2	2,000 00	-	-	496	18 00
st, . . .	4 02.1	1,685 00	-	-	419	-
y, . . .	4 01.6	2,000 00	-	-	498	32 00
. . .	4 01.2	1,300 00	-	-	324	571 80
. . .	4 00.7	900 00	45 51	945 51	211	28 25
. . .	4 00.7	3,795 00	-	-	947	30 00
. . .	4 00	6,258 00	-	-	1,564	-
. . .	3 97.6	500 00	44 74	544 74	137	-
gton, . .	3 94.7	750 00	-	-	190	-
one, . .	3 94	4,500 00	-	-	1,142	380 00
l, . . .	3 91.6	500 00	9 00	509 00	180	66 00



For 1864-5.	For 1865-6.	TOWNS.	Sum appropriated by towns for each child between 5 and 15 years of age.	Amount raised by taxes for the support of Schools.	Income of Surplus Revenue appropriated to Schools.
308	279	Gardner, . .	\$3 91.4	\$2,000 00	-
282	280	Tyringham, . .	3 89.6	600 00	-
331	281	Dennis, . . .	3 88.6	3,000 00	-
110	282	Pembroke, . .	3 87.1	1,200 00	-
297	283	Berlin, . . .	3 86.5	800 00	-
206	284	Sturbridge, . .	3 83.7	1,600 00	-
313	285	W. Springfield,	3 83.7	1,600 00	-
252	286	Wilbraham, . .	3 83.3	1,600 00	\$102 00
269	287	No. Reading, . .	3 82.9	850 00	-
251	288	Royalston, . .	3 81	1,200 00	-
232	289	Southampton, .	3 75.9	1,000 00	-
311	290	Becket, . . .	3 75	1,200 00	-
248	291	Ashburnham, . .	3 74.4	1,700 00	-
231	292	Middlefield, . .	3 73.4	500 00	90 00
228	293	Hanson, . . .	3 73.1	1,000 00	-
208	294	Wareham, . . .	3 71	2,500 00	-
322	295	Holland, . . .	3 65.9	300 00	-
325	296	Charlemont, . .	3 61.4	900 00	-
284	297	Rehoboth, . . .	3 61.1	1,000 00	336 20
286	298	Freetown, . . .	3 58.2	1,200 00	-
253	299	Southbridge, . .	3 54.8	3,300 00	-
292	300	Gill, . . . .	3 54.6	500 00	-
277	301	Mansfield, . . .	3 50	1,515 46	-
266	302	Mattapoisett, . .	3 46	1,000 00	-
236	303	Oakham, . . .	3 43.1	700 00	-
287	304	Chester, . . .	3 40.1	1,000 00	-
293	305	Sandisfield, . .	3 36	1,200 00	86 89
318	306	Monroe, . . .	3 33.3	108 00	12 00
280	307	Attleborough, . .	3 32.8	4,500 00	-
312	308	Washington, . .	3 31.8	700 00	-
177	309	Agawam, . . .	3 29.7	1,200 00	-
300	310	Westport, . . .	3 27.6	2,100 00	-
310	311	Coleraine, . . .	3 20.9	1,200 00	-
303	312	Leverett, . . .	3 20.9	600 00	-
316	313	Dudley, . . .	3 20.4	1,400 00	-
189	314	Williamsburg, . .	3 20	1,500 00	-
296	315	Shutesbury, . .	3 19.1	600 00	-
224	316	Tolland, . . .	3 15	400 00	-
299	317	Russell, . . .	3 00	450 00	-
323	318	Savoy, . . . .	3 00	570 00	-
310	319	Buckland, . . .	2 96.3	1,200 00	-
314	320	Lanesborough, . .	2 93	800 00	-
307	321	Groveland, . . .	2 88.1	907 50	-
327	322	New Ashford, . .	2 85.7	100 00	-
275	323	Stockbridge, . .	2 84.6	1,400 00	-
329	324	W. Stockbridge, . .	2 80.1	1,000 00	-
320	325	Cheshire, . . .	2 68 8	1,000 00	-
324	326	West Boylston, . .	2 67.5	1,375 00	-
321	327	Granville, . . .	2 51.6	800 00	-

TOWNS.	Sum appropriated by towns for each child between 5 and 15 years of age.	Amount raised by taxes for the support of Schools.	Income of Surplus Revenue appropriated to Schools.	TOTAL.	No. of Children between 5 and 15 years of age.	Amount contributed for board and fuel.
Burg, .	\$2 50	\$300 00	-	-	120	\$320 00
Abington,	2 46	150 00	-	-	61	225 00
Wilmington,	2 41	2,000 00	-	-	830	200 00
Dund, . .	2 00	400 00	-	-	200	420 11
Wick, . .	1 99.2	504 00	-	-	253	372 50
Wick, . .	1 74.7	400 00	-	-	229	530 00
Wickston, .	1 68.5	300 00	-	-	178	210 00
Wick, *	-	-	-	-	-	-
Free Dis,	1 78.6	125 00	-	-	70	-

\* New town, incorporated at the last session.



## GRADUATED TABLES—FIRST S

*Table, showing the comparative amount of Money  
different Towns in each of the Counties of the Sta  
of each Child in the Town, between the ages of 5 and*

## SUFFOLK COUNTY.

For 1864-5.	For 1865-6.	TOWNS.	Sum appropriated by towns for each child between 5 and 15 years of age.	Amount raised by taxes for the sup- port of Schools.	Income of Surplus Revenue appropri- ated to Schools.	T
1	1	BOSTON, . .	\$13 16.1	\$459,365 29	-	
2	2	North Chelsea,	11 04	1,854 00	-	
3	3	Chelsea, . .	10 11	33,000 00	-	
4	4	Winthrop, . .	9 16	1,200 00	-	

## ESSEX COUNTY.

1	1	NAHANT, . .	\$19 71.8	\$1,400 00	-	
2	2	Swampscott, .	10 30.9	3,000 00	-	
6	3	Salem, . . .	8 98.2	35,218 82	-	
4	4	Lawrence, . .	7 81.7	28,241 83	-	
11	5	Saugus, . . .	7 47.3	3,205 96	-	
3	6	South Danvers,	7 44.7	10,708 00	\$335 17 11,	
18	7	Methuen, . .	7 21.6	3,500 00	-	
5	8	Lynn, . . .	7 02.4	30,687 42	-	
7	9	Newburyport, .	6 96.6	20,858 29	-	
8	10	Beverly, . .	6 62.5	7,500 00	-	
9	11	Gloucester, .	6 36.4	14,950 00	-	
10	12	Haverhill, . .	6 23.6	12,000 00	521 18 12,	
13	13	Georgetown, .	6 22	2,550 00	-	
21	14	Bradford, . .	6 19.2	2,000 00	-	
17	15	Lynnfield, . .	6 10.7	800 00	-	
15	16	No. Andover, .	6 02.4	3,000 00	-	
16	17	Essex, . . .	5 84.8	2,000 00	-	
12	18	Danvers, . .	5 75.9	6,300 00	300 00 6,	
22	19	Marblehead, .	5 51	8,000 00	-	
23	20	Manchester, .	5 41.1	2,040 00	-	
24	21	Rockport, . .	5 24.4	3,400 00	98 00 3,4	
19	22	Boxford, . .	5 01	900 00	65 98 9	
28	23	Amesbury, . .	4 88.4	4,000 00	-	

## ESSEX COUNTY—CONTINUED.

WNS.	Sum appropriated by towns for each child between 5 and 15 years of age.	Amount raised by taxes for the support of Schools.	Income of Surplus Revenue appropriated to Schools.	TOTAL.	No. of Children between 5 and 15 years of age.	Amount contributed for board and fuel.
Am, . . .	\$4 78.5	\$1,000 00	-	-	209	-
on, . . .	4 70.6	800 00	-	-	170	-
ry, . . .	4 67.6	1,300 00	-	-	278	-
ry, . . .	4 66	3,500 00	-	-	751	-
h, . . .	4 51.2	8,100 00	-	-	687	-
y, . . .	4 44.4	1,200 00	-	-	270	\$51 00
eld, . . .	4 40.5	1,000 00	-	-	227	-
ewbury, . . .	4 37	2,014 41	-	-	461	-
er, . . .	4 33.1	4,500 00	-	-	1,039	-
ton, . . .	4 32.7	900 00	-	-	208	-
and, . . .	2 88.1	907 50	-	-	315	-

## MIDDLESEX COUNTY.

TON, . . .	\$14 05.9	\$10,558 13	-	-	751	-
mbbridge, . . .	13 78	7,510 00	-	-	545	\$210 00
nt, . . .	13 60	3,400 00	-	-	250	-
n, . . .	13 35.1	26,408 09	-	-	1,978	-
own, . . .	13 10.1	9,275 50	-	-	708	-
ville, . . .	12 79.7	24,800 00	-	-	1,938	-
etown, . . .	10 80.8	53,486 84	-	-	4,951	-
idge, . . .	10 23.5	71,984 61	-	-	6,999	-
rd, . . .	10 16.9	4,200 00	-	-	413	-
rton, . . .	10 04.8	4,200 00	-	-	418	70 00
, . . .	9 75.6	50,000 00	-	-	5,125	-
d, . . .	9 65.7	11,211 78	-	-	1,161	-
e, . . .	9 15.7	5,594 77	-	-	611	-
n, . . .	9 10.9	14,000 00	-	-	1,537	-
ester, . . .	8 94	4,300 00	-	-	481	-
n, . . .	8 47.5	2,000 00	-	-	236	-
, . . .	7 87.9	1,300 00	-	-	165	40 00
g, . . .	7 84.3	4,000 00	-	-	510	85 00
am, . . .	7 83.6	10,696 45	-	-	1,365	-
gton, . . .	7 69.2	800 00	-	-	104	-
d, . . .	7 59.5	1,200 00	-	-	158	-
, . . .	7 52.7	2,100 00	-	-	279	-
r, . . .	7 40.7	1,800 00	-	-	243	-
am, . . .	7 33	4,200 00	-	-	573	-
ingham, . . .	7 22.2	6,500 00	-	-	900	70 00
Reading, . . .	7 17.4	5,000 00	-	-	697	80 00
n, . . .	6 90	1,000 00	-	-	145	-
borough, . . .	6 86.2	700 00	-	-	102	12 00
on, . . .	6 55.7	4,400 00	-	-	671	-
n, . . .	6 31.6	9,500 00	-	-	1,504	500 00
on, . . .	6 22	1,300 00	-	-	209	-

## MIDDLESEX COUNTY—CONTINUED

		TOWNS.	Sum appropriated by towns for each child between 5 and 15 years of age.	Amount raised by tax for support of Schools.	Income of Surplus Revenue appropriated to Schools.	TOT
	For 1864-5.	For 1865-6.				
39	32	Sudbury, . .	\$6 00	\$1,500 00	-	
46	33	Marlborough, .	5 97.7	9,700 00	-	
24	34	Sherborn, . .	5 71.4	1,200 00	-	
33	35	Wayland, . .	5 64.9	1,350 00	-	
34	36	Dunstable, . .	5 55.6	500 00	-	
37	37	Ashland, . .	5 49.1	1,900 00	-	
35	38	Billerica, . .	5 45.5	1,800 00	-	
41	39	Groton, . .	5 32.7	3,500 00	-	
38	40	Natick, . .	5 28.6	6,000 00	-	
47	41	Townsend, . .	5 27.7	2,000 00	-	
45	42	Acton, . .	5 18.1	2,000 00	-	
51	43	Chelmsford, .	5 09.2	2,500 00	-	
48	44	Westford, . .	4 91.2	1,400 00	-	
31	45	Boxborough, .	4 67.3	500 00	-	
36	46	Tewksbury, .	4 54.5	1,200 00	-	
49	47	Stow, . .	4 33.3	1,300 00	-	
42	48	Carlisle, . .	4 31.3	556 33	-	
44	49	Pepperell, . .	4 19.2	1,400 00	-	
50	50	Hopkinton, .	4 09.6	4,100 00	-	
43	51	Wilmington, .	3 94.7	750 00	-	
52	52	No. Reading, .	3 82.9	850 00	-	
		Hudson,* . .	-	-	-	

## WORCESTER COUNTY.

7	1	LUNENBURG,	\$9 36.4	\$1,648 00	-	
1	2	Worcester, . .	8 10.8	48,512 40	-	
8	3	Lancaster, . .	7 40.7	2,000 00	-	
10	4	Leicester, . .	7 36.6	4,000 00	-	
9	5	Harvard, . .	6 86.8	1,875 00	-	
3	6	New Braintree,	6 71.1	1,000 00	-	
51	7	Northbridge, .	6 67.8	4,000 00	-	
5	8	Southborough,	6 64.7	2,300 00	-	
4	9	Barre, . .	6 62.7	3,300 00	-	
6	10	Fitchburg, . .	6 58.7	11,000 00	-	
11	11	Leominster, . .	6 53.5	3,979 96	-	
25	12	Brookfield, . .	6 51	2,500 00	-	
2	13	Clinton, . .	6 21.4	5,573 70	-	
17	14	Hardwick, . .	6 02	1,800 00	-	
46	15	Douglas, . .	5 91	2,500 00	-	
15	16	Upton, . .	5 79.8	2,058 25	-	
23	17	Charlton, . .	5 59	2,090 49	-	
14	18	Sterling, . .	5 57.8	1,800 00	\$79 95	\$1,879 95
34	19	Petersham, . .	5 55.6	1,600 00	-	
19	20	Templeton, . .	5 55.6	2,500 00	-	
27	21	Paxton, . .	5 51.2	700 00	-	

\* Newly incorporated.



## WORCESTER COUNTY—CONTINUED.

TOWNS.	Sum appropriated by towns for each child between 5 and 15 years of age.	Amount raised by taxes for the support of Schools.	Income of Surplus Revenue appropriated to Schools.	TOTAL.	No. of Children between 5 and 15 years of age.	Amount contributed for board and fuel.
Brookfield,	\$5 45	\$2,000 00	-	-	367	-
"  "  "	5 23 6	3,100 00	-	-	592	-
"  "  "	5 21.7	3,150 00	\$220 00	\$3,370 00	646	-
"  "  "	5 20.8	3,000 00	-	-	576	\$16 00
"  "  "	5 12.7	4,220 00	86 40	4,306 40	840	13 00
"  "  "	5 12.3	1,250 00	-	-	244	21 00
"  "  "	5 10.3	1,954 47	-	-	383	-
"  "  "	5 07.3	4,500 00	-	-	887	-
"  "  "	4 93.9	2,850 00	-	-	577	-
"  "  "	4 90.2	750 00	-	-	153	20 00
"  "  "	4 68.9	1,524 00	-	-	325	60 00
"  "  "	4 63.4	2,850 00	-	-	615	-
"  "  "	4 62.8	1,200 00	137 51	1,337 51	289	-
"  "  "	4 58.9	1,528 00	-	-	333	35 00
"  "  "	4 57.5	700 00	-	-	153	37 00
"  "  "	4 45.1	1,500 00	-	-	337	47 54
"  "  "	4 44.4	1,400 00	-	-	315	18 00
"  "  "	4 42.8	1,200 00	-	-	271	125 00
"  "  "	4 42.1	10,000 00	-	-	2,262	-
"  "  "	4 28.1	2,500 00	-	-	584	-
"  "  "	4 26.5	1,800 00	-	-	422	72 00
"  "  "	4 24.8	2,400 00	-	-	565	-
"  "  "	4 13.1	975 00	-	-	236	-
"  "  "	4 11.8	700 00	-	-	170	60 00
"  "  "	4 03.7	3,500 00	-	-	867	-
"  "  "	4 03.2	2,000 00	-	-	496	18 00
"  "  "	4 00.7	900 00	45 51	945 51	211	28 25
"  "  "	3 94	4,500 00	-	-	1,142	380 00
"  "  "	3 91.4	2,000 00	-	-	511	-
"  "  "	3 86.5	800 00	-	-	207	60 00
"  "  "	3 83.7	1,600 00	-	-	417	70 00
"  "  "	3 81	1,200 00	-	-	315	48 50
"  "  "	3 74.4	1,700 00	-	-	454	14 00
"  "  "	3 54.8	3,300 00	-	-	930	200 00
"  "  "	3 43.1	700 00	-	-	204	22 00
"  "  "	3 20.4	1,400 00	-	-	437	125 00
"  "  "	2 67.5	1,375 00	-	-	514	21 65

## HAMPSHIRE COUNTY.

"  "  "	\$7 87.4	\$5,000 00	-	-	635	\$100 00
"  "  "	7 08	800 00	-	-	113	-
"  "  "	6 71.5	4,600 00	-	-	685	-
"  "  "	6 14.7	2,600 00	-	-	423	30 00

## HAMPSHIRE COUNTY—CONTINUED

For 1864-5.	For 1865-6.	TOWNS.	Sum appropriated to towns for each child between 5 and 15 years of age.	Amount raised by taxes for the support of Schools.	Income of Surplus Revenue appropriated to Schools.	To
7	5	Northampton, .	\$6 00.6	\$10,000 00	-	
5	6	South Hadley, .	5 69.5	2,500 00	-	
3	7	Granby, . . .	5 55.6	1,000 00	-	
11	8	Prescott, . . .	5 45.5	600 00	-	
21	9	Westhampton, .	5 44.2	800 00	-	
17	10	Pelham, . . .	5 38.6	781 00	-	
16	11	Enfield, . . .	5 29.1	1,000 00	-	
20	12	Belchertown, .	5 28.2	3,000 00	-	
4	13	Hatfield, . . .	5 19	1,500 00	-	
8	14	Goshen, . . .	4 87.8	400 00	-	
10	15	Plainfield, . .	4 80 8	500 00	-	
13	16	Worthington, .	4 78.3	800 00	\$146 98	\$0
15	17	Chesterfield, .	4 52	800 00	-	
14	18	Cummington, .	4 50.5	1,000 00	-	
22	19	Huntington, . .	4 20	1,000 00	-	
23	20	Easthampton, .	4 06	2,200 00	-	
19	21	Southampton, .	3 75.9	1,000 00	-	
18	22	Middlefield, . .	3 73.4	500 00	90 00	5
12	23	Williamsburg, .	3 20	1,500 00	-	

## HAMPDEN COUNTY.

2	1	CHICOPEE, . .	\$9 76.2	\$12,710 00	-	
1	2	Springfield, . .	9 75.5	36,139 00	\$81 00	36,
5	3	Westfield, . . .	7 47	8,000 00	-	
3	4	Longmeadow, .	7 32.6	2,000 00	-	
6	5	Wales, . . . .	7 14.3	750 00	-	
4	6	Holyoke, . . .	6 28.9	7,000 00	-	
8	7	Brimfield, . . .	5 75.2	1,300 00	-	
14	8	Ludlow, . . . .	4 72.7	1,300 00	-	
10	9	Montgomery, .	4 65.1	400 00	-	
9	10	Monson, . . . .	4 48.8	2,500 00	-	
16	11	Blandford, . . .	4 18.8	800 00	-	
12	12	Palmer, . . . .	4 18	2,700 00	-	
18	13	W. Springfield, .	3 83.7	1,600 00	-	
13	14	Wilbraham, . .	3 83.3	1,600 00	102 00	1,
20	15	Holland, . . . .	3 65.9	300 00	-	
15	16	Chester, . . . .	3 40.1	1,000 00	-	
7	17	Agawam, . . . .	3 29.7	1,200 00	-	
11	18	Tolland, . . . .	3 15	400 00	-	
17	19	Russell, . . . .	3 00	450 00	-	
19	20	Granville, . . .	2 51.6	800 00	-	
21	21	Southwick, . .	1 99.2	504 00	-	

## FRANKLIN COUNTY.

TOWNS.	Sum appropriated by towns for each child between 5 and 15 years of age.	Amount raised by taxes for the support of schools.	Income of Surplus Revenue appropriated to schools.	TOTAL.	No. of Children between 5 and 15 years of age.	Amount contributed for board and fuel.
ANDOVERFIELD,	\$8 84.7	\$5,600 00	-	-	633	\$200 00
Andoverland,	8 24.2	1,500 00	-	-	182	-
Andoverfield,	7 42.6	1,500 00	-	-	202	561 00
Andoverfield,	5 72.7	4,054 61	-	-	708	483 50
Andoverick,	5 49.5	900 00	\$50 68	\$950 68	173	-
Andoverge,	5 14.3	1,800 00	-	-	350	-
Andoverly,	5 10.9	700 00	-	-	137	270 00
Andoverly,	5 05	1,100 00	-	-	218	102 00
Andoverburne,	4 77.7	1,500 00	-	-	314	550 00
Andoverey,	4 66.7	700 00	-	-	150	284 50
Andoverague,	4 47.6	1,500 00	165 12	1,665 12	372	250 00
AndoverSalem,	4 44.4	1,000 00	-	-	225	150 00
Andoveron,	4 40	550 00	-	-	125	328 00
Andoverfield,	4 14.3	1,500 00	66 00	1,566 00	378	50 00
Andover,	4 05.4	600 00	-	-	148	213 00
Andoveray,	4 01.2	1,300 00	-	-	324	571 80
Andoverg,	3 97.6	500 00	44 74	544 74	137	-
Andoverell,	3 91.6	500 00	9 00	509 00	130	66 00
Andoveremont,	3 61.4	900 00	-	-	249	-
Andover,	3 54.6	500 00	-	-	141	225 00
Andovere,	3 33.3	108 00	12 00	120 00	86	150 00
Andoveraine,	3 20.9	1,200 00	-	-	374	-
Andoverett,	3 20.9	600 00	-	-	187	96 84
Andoverbury,	3 19.1	600 00	-	-	188	150 00
Andoverand,	2 96.3	1,200 00	-	-	405	59 00
Andoverardston,	1 68.5	300 00	-	-	178	210 00

## BERKSHIRE COUNTY.

ANDOVEREY,	\$5 94.7	\$800 00	\$104 00	\$904 00	152	\$550 00
Andovern,	5 85.9	1,500 00	-	-	256	117 00
Andoverale,	5 44.4	1,900 00	-	-	349	125 00
Andoverla,	5 33.3	800 00	-	-	150	375 00
Andoverk,	5 24.5	1,500 00	-	-	286	129 00
Andovereld,	4 81.8	8,750 00	-	-	1,816	200 00
Andoverd,	4 76.2	300 00	-	-	63	15 00
Andoverumstown,	4 44.1	2,500 00	-	-	563	500 00
Andover,	4 30.1	800 00	-	-	186	500 00
Andovermont,	4 18.8	800 00	-	-	191	550 00
Andover,	4 10.3	500 60	-	-	122	289 00
Andoverarlboro',	4 09.5	1,200 00	327 52	1,527 52	373	305 30
Andoveror,	4 09.4	700 00	-	-	171	524 00
Andovereld,	4 03.6	2,000 00	115 00	2,115 00	524	950 00
Andover,	4 00.7	3,795 00	-	-	947	80 00



## BERKSHIRE COUNTY—CONTINUED

For 1864-5.	For 1863-4.	TOWNS.	Sum appropriated by towns for each child between 5 and 15 years of age.	Amount raised by taxes for the support of Schools.	Income of Surplus Revenue appropriated to Schools.	T
18	16	Adams, . . .	\$1 00	\$6,256 00	-	
12	17	Tyringham, .	3 89.6	600 00	-	
19	18	Becket, . . .	3 75	1,200 00	-	
15	19	Sandisfield, .	3 36	1,200 00	\$86 89	\$1,
20	20	Washington, .	3 31.8	700 00	-	
25	21	Savoy, . . .	3 00	570 00	-	
21	22	Lanesborough,	2 93	800 00	-	
27	23	New Ashford, .	2 85.7	100 00	-	
11	24	Stockbridge, .	2 84.6	1,400 00	-	
29	25	W. Stockbr'ge,	2 80.1	1,000 00	-	
24	26	Cheshire, . .	2 68 8	1,000 00	-	
26	27	Clarksburg, .	2 50	300 00	-	
28	28	Mt. Washing'n,	2 46	150 00	-	
6	29	Gt. Barringt'n,	2 41	2,000 00	-	
30	30	Richmond, . .	2 00	400 00	-	
31	31	Hancock, . .	1 74.7	400 00	-	

## NORFOLK COUNTY.

1	1	BROOKLINE, .	\$20 76.2	\$19,848 88	-	
2	2	Dorchester, .	15 62.5	36,500 00	-	
4	3	Milton, . . .	13 80.7	7,000 00	-	
3	4	West Roxbury,	12 54.3	15,591 20	-	
6	5	Roxbury, . .	10 62	64,877 99	-	
5	6	Dedham, . . .	10 21.2	15,380 00	-	
10	7	Needham, . .	10 05.4	5,348 82	-	
14	8	Foxborough, .	8 80.1	4,700 00	-	
8	9	Quincy, . . .	7 98.4	12,375 00	-	
9	10	Walpole, . . .	7 48.1	3,000 00	-	
11	11	Cohasset, . .	6 84.2	2,600 00	-	
7	12	Medfield, . .	6 30	900 00	-	
13	13	Weymouth, . .	5 90.2	10,500 00	-	
16	14	Dover, . . .	5 88.2	800 00	-	
17	15	Franklin, . .	5 64.7	2,552 40	-	
15	16	Bellingham, .	5 46.3	1,400 00	\$140 63	\$1,
20	17	Canton, . . .	5 43.5	4,500 00	-	
12	18	Wrentham, . .	5 31.3	3,000 00	341 86	3,
21	19	Randolph, . .	4 98.9	7,000 00	-	
18	20	Sharon, . . .	4 97	1,228 00	183 43	1,
22	21	Stoughton, . .	4 83.7	5,500 00	-	
19	22	Braintree, . .	4 80.2	4,000 00	-	
23	23	Medway, . . .	4 63.7	3,000 00	-	

## BRISTOL COUNTY.

	Sum appropriated by towns for each child between 5 and 15 years of age.	Amount raised by taxes for the support of Schools.	Income of Surplus Revenue appropriated to Schools.	TOTAL	No. of children between 5 and 15 years of age.	Amount contributed for board and fuel.
ORD, .	\$10 62	\$40,910 14	-	-	3,852	-
n, .	9 31.7	4,500 00	-	-	483	\$40 00
, .	7 79.9	1,762 57	-	-	226	33 00
, .	6 87.3	2,000 00	-	-	291	-
er, .	6 48.4	27,000 00	-	-	4,164	-
. .	5 71.4	1,000 00	-	-	175	-
. .	5 54.2	545 14	\$264 00	\$809 14	146	12 00
. .	5 45.5	1,800 00	-	-	330	-
. .	5 38.9	17,515 30	-	-	3,250	-
th, .	4 82.8	3,500 00	-	-	725	101 20
, .	4 55.9	1,500 00	-	-	329	-
. .	4 27.4	1,500 00	-	-	351	-
. .	4 09.1	2,700 00	-	-	660	700 00
. .	4 02.1	1,685 00	-	-	419	-
, .	3 61.1	1,000 00	336 20	1,336 20	370	-
, .	3 58.2	1,200 00	-	-	335	-
, .	3 50	1,515 46	-	-	433	-
ugh, .	3 32.8	4,500 00	-	-	1,352	80 00
, .	3 27.6	2,100 00	-	-	641	500 00

## PLYMOUTH COUNTY.

, .	\$9 70.1	\$12,000 00	-	-	1,237	-
, .	7 94.6	5,426 99	-	-	683	-
, .	7 31.3	2,150 00	-	-	294	-
, .	6 13.2	325 00	-	-	53	-
, .	6 03.9	2,500 00	-	-	414	\$25 25
, .	5 68.7	1,200 00	-	-	211	20 00
, .	5 34.8	1,000 00	-	-	187	-
, .	5 30.3	700 00	-	-	132	-
ate, .	5 20	1,700 00	-	-	327	-
, .	4 75.5	10,000 00	-	-	2,103	200 00
ro', .	4 62.5	4,500 00	-	-	973	140 00
water, .	4 59	7,000 00	-	-	1,525	-
ter, .	4 44.7	3,500 00	-	-	787	150 00
, .	4 43	1,400 00	-	-	316	-
water, .	4 39.9	3,000 00	-	-	682	-
, .	4 30	800 00	-	-	186	183 00
, .	4 24.4	1,600 00	-	-	377	25 00
, .	4 18.8	800 00	-	-	191	81 00
, .	4 14.5	800 00	-	-	193	-
ew'r, .	4 07.7	1,700 00	-	-	417	40 00
, .	4 01.6	2,000 00	-	-	498	32 00
, .	3 87.1	1,200 00	-	-	310	84 00



## PLYMOUTH COUNTY—CONTINUED

		TOWNS.	Sum appropriated by towns for each child between 5 and 15 years of age.	Amount raised by taxes for the support of Schools.	Income of Surplus Revenue appropriated to Schools.	
For 1864-5.	For 1863-4.					
20	23	Hanson, . .	\$3 73.1	\$1,000 00	-	
16	24	Wareham, . .	3 71	2,500 00	-	
23	25	Mattapoissett, .	3 46	1,000 00	-	

## BARNSTABLE COUNTY

1	1	PROVINCETOWN,	\$7 09.2	\$5,000 00	-	
4	2	Barnstable, . .	7 03.5	7,000 00	-	
3	3	Yarmouth, . .	6 70.5	3,500 00	-	
2	4	Orleans, . .	6 12.2	1,800 00	-	
6	5	Brewster, . .	5 90.1	1,800 00	-	
7	6	Falmouth, . .	5 80	2,500 00	-	
8	7	Chatham, . .	5 60	3,500 00	-	
11	8	Sandwich, . .	5 46.4	5,000 00	-	
5	9	Eastham, . .	4 93	700 00	-	
10	10	Wellfleet, . .	4 82.6	2,500 00	\$106 00	2,600 00
9	11	Truro, . .	4 81.1	1,400 00	-	
12	12	Harwich, . .	4 22.7	3,500 00	-	
13	13	Dennis, . .	3 88.6	3,000 00	-	
		Marshpee Dist.,	1 78.6	125 00	-	

## DUKES COUNTY.

1	1	EDGARTOWN,	\$5 86.7	\$2,200 00	-	
2	2	Chilmark, . .	5 85.1	550 00	-	
3	3	Gosnold, . .	5 26.3	100 00	-	
4	4	Tisbury, . .	5 14.3	1,800 00	-	

## NANTUCKET COUNTY

NANTUCKET,	. . .	\$10 62.4	\$8,000 00	-	
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For	For	child between 5 and 15 years of age.	taxes for the support of Schools.	revenue and similar funds appropriated to Schools.	TOTAL.	ave. of children between 5 and 15 years of age.	Amount contributed for board and fuel.
1	1	\$12 88	\$495,419 29	-	\$495,419 29	38,465	-
2	2	10 62	8,000 00	-	8,000 00	753	-
3	3	9 44	231,602 29	\$665 89	232,268 18	24,607	\$371 00
4	4	9 03	403,432 50	-	403,432 50	44,695	1,448 50
5	5	8 97	83,453 00	183 00	83,636 00	12,007	5,454 87
6	6	6 68	226,480 23	1,320 33	227,800 56	34,118	871 00
7	7	6 41	118,233 61	600 20	118,833 81	18,332	1,466 20
8	8	5 61	41,200 00	106 00	41,306 00	7,366	2,129 75
9	9	5 59	188,764 27	569 37	189,333 64	33,897	1,962 19
10	10	5 55	4,650 00	-	4,650 00	838	66 00
11	11	5 48	43,881 00	236 98	44,117 98	8,044	5,639 80
12	12	5 24	69,801 99	-	69,801 99	13,327	1,058 25
13	13	4 80	32,212 61	347 54	32,560 15	6,664	4,970 14
14	14	3 90	45,921 60	633 41	46,555 01	11,940	9,695 41

## AGGREGATE FOR THE STATE.

State,	.	.	.	.	.	\$7 82	\$1,993,177 39	\$4,662 72	\$1,997,715 11	255,323	\$35,133 11
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## A GRADUATED TABLE—FIRST

*Showing the Comparative Amount of Money, including contributions, appropriated by the different Counties for the education of each Child between the ages of 5 and 15 years, for the years 1864-5 and 1865-6.*

For 1864-5.	For 1865-6.	COUNTIES.
1	1	SUFFOLK, . . . . .
2	2	Nantucket, . . . . .
3	3	Norfolk, . . . . .
4	4	Middlesex, . . . . .
7	5	Hampden, . . . . .
6	6	Essex, . . . . .
5	7	Bristol, . . . . .
8	8	Hampshire, . . . . .
12	9	Barnstable, . . . . .
9	10	Worcester, . . . . .
11	11	Franklin, . . . . .
13	12	Dukes, . . . . .
10	13	Plymouth, . . . . .
14	14	Berkshire, . . . . .

Aggregate for the State, including voluntary contribution



## GRADUATED TABLES—SECOND SERIES.

Table exhibits the appropriations of the cities and towns, as their respective valuations in 1865.

Table shows the rank of the cities and towns in a similar Table for

Table indicates, in numerical order, the precedence of the cities with respect to the liberality of their appropriations for 1865-6.

Table consists of the names of the cities and towns, as numerically

Table shows the percentage of taxable property appropriated to the public Schools. The result is equivalent in value to mills and cents. The decimals are carried to three figures in order to perfectly the distinction between the different towns. The first expresses the principal value, and is separated from the last two

Expenditures for schools are not given in the following Table, as they are referred to the previous Tables, also in the Abstract of School Expenditures on page ii. These appropriations include the sum raised from some of the surplus revenue, and of such other funds as the cities appropriate at their option, either to support Common Schools, or to defray municipal expenses. The income of other local funds, and the donations are not included in the estimate. The appropriations are the same as in the first series of tables, and for the same reasons.

Table of taxable property, in each city and town, according to the last census is also omitted, as it is already given in the foregoing Abstract of Taxable Property.

Table assigned to towns in the next Tables is compared with the rank of the cities in the former series, it will be seen that they hold, in many cases, a different place in the scale.



## GRADUATED TABLES—SECOND

*A Graduated Table, in which all the Towns in the State are arranged, according to the percentage of their tax appropriated to the support of Public Schools, for the year 1864-5.*

For 1864-5, according to Valuation of 1860.	For 1865-6, according to Valuation of 1865.	TOWNS.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.	For 1864-5.	For 1865-6.	
48	1	FLORIDA, . . .	\$.005-25	28	36	N. I.
158	2	Northbridge, . . .	4-45	97	37	N. I.
2	3	Somerville, . . .	4-36	54	38	Pro
4	4	Warwick, . . .	4-31	15	39	Ber
3	5	Chelsea, . . .	4-28	50	40	Stor
30	6	Chicopee, . . .	4-06	34	41	Stor
5	7	Pelham, . . .	3-96	11	42	Erv
1	8	Truro, . . .	3-87	23	43	We
8	9	Hawley, . . .	3-83	104	44	Bar
42	10	Marlborough, . . .	3-83	73	45	Mon
14	11	Plymouth, . . .	3-82	39	46	Rea
9	12	Marblehead, . . .	3-75	18	47	Gre
10	13	Nantucket, . . .	3-72	94	48	Acu
6	14	Wellfleet, . . .	3-72	19	49	Lyn
80	15	Foxborough, . . .	3-66	20	50	Mil
45	16	Sunderland, . . .	3-62	124	51	Hea
26	17	Ware, . . .	3-52	41	52	Ash
172	18	Westborough, . . .	3-48	153	53	Ora
38	19	Malden, . . .	3-46	72	54	San
65	20	Harwich, . . .	3-41	190	55	Nee
62	21	Watertown, . . .	3-36	21	56	Nev
35	22	Georgetown, . . .	3-35	32	57	Dan
52	23	Deerfield, . . .	3-33	79	58	Gre
33	24	Rowe, . . .	3-33	78	59	Wa
7	25	Bellingham, . . .	3-32	51	60	Win
16	26	Gloucester, . . .	3-32	63	61	Win
40	27	Melrose, . . .	3-28	70	62	Hol
29	28	Abington, . . .	3-27	133	63	Scit
66	29	Natick, . . .	3-26	22	64	Cha
24	30	Millbury, . . .	3-23	84	65	Cun
25	31	Quincy, . . .	3-23	17	66	Dan
12	32	Orleans, . . .	3-22	31	67	Sou
37	33	Chatham, . . .	3-18	235	68	Dou
13	34	Eastham, . . .	3-18	128	69	Ath
53	35	Dedham, . . .	3-17	110	70	Lud

TOWNS.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.			TOWNS.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.
		For 1864-5.	For 1865-6.		
Amherst, . . .	\$ .002-83	106	120	Worcester, . . .	\$ .002-46
Reading, . . .	2-81	254	121	Ashfield, . . .	2-45
Bedford, . . .	2-80	100	122	Bedford, . . .	2-45
Charlemont, . . .	2-80	255	123	Charlemont, . . .	2-45
Petersham, . . .	2-80	205	124	Petersham, . . .	2-45
Franklin, . . .	2-78	130	125	Franklin, . . .	2-44
Huntington, . . .	2-76	108	126	Huntington, . . .	2-44
Yarmouth, . . .	2-75	191	127	Yarmouth, . . .	2-43
Grafton, . . .	2-74	77	128	Grafton, . . .	2-42
Washington, . . .	2-74	144	129	Washington, . . .	2-42
Bolton, . . .	2-73	76	130	Bolton, . . .	2-40
Bradford, . . .	2-72	216	131	Bradford, . . .	2-40
Lexington, . . .	2-72	71	132	Lexington, . . .	2-40
Medway, . . .	2-71	178	133	Medway, . . .	2-40
Southborough, . . .	2-71	105	134	Southborough, . . .	2-40
Randolph, . . .	2-71	219	135	Randolph, . . .	2-39
Amesbury, . . .	2-71	212	136	Amesbury, . . .	2-38
Lowell, . . .	2-71	74	137	Lowell, . . .	2-38
Hinsdale, . . .	2-71	311	138	Hinsdale, . . .	2-37
Wrentham, . . .	2-71	75	139	Wrentham, . . .	2-37
Paxton, . . .	2-69	127	140	Paxton, . . .	2-36
Rowley, . . .	2-69	224	141	Rowley, . . .	2-35
Acton, . . .	2-68	155	142	Acton, . . .	2-34
Peru, . . .	2-66	270	143	Peru, . . .	2-33
Swansey, . . .	2-66	57	144	Swansey, . . .	2-33
Dighton, . . .	2-65	87	145	Dighton, . . .	2-32
Framingham, . . .	2-65	115	146	Framingham, . . .	2-32
Windsor, . . .	2-64	163	147	Windsor, . . .	2-31
Charlton, . . .	2-63	160	148	Charlton, . . .	2-30
Holden, . . .	2-63	275	149	Holden, . . .	2-29
Holland, . . .	2-62	181	150	Holland, . . .	2-29
Middleton, . . .	2-60	92	151	Middleton, . . .	2-29
Buckland, . . .	2-57	95	152	Buckland, . . .	2-28
Hingham, . . .	2-57	151	153	Hingham, . . .	2-27
South Hadley, . . .	2-57	98	154	South Hadley, . . .	2-27
Blackstone, . . .	2-56	122	155	Blackstone, . . .	2-26
Lee, . . .	2-55	109	156	Lee, . . .	2-26
Clarksburg, . . .	2-54	185	157	Clarksburg, . . .	2-25
Groton, . . .	2-53	137	158	Groton, . . .	2-25
Lunenburg, . . .	2-53	253	159	Lunenburg, . . .	2-25
Chester, . . .	2-53	103	160	Chester, . . .	2-24
Beverly, . . .	2-52	142	161	Beverly, . . .	2-23
Dover, . . .	2-52	167	162	Dover, . . .	2-23
Cohasset, . . .	2-51	171	163	Cohasset, . . .	2-21
Gardner, . . .	2-51	186	164	Gardner, . . .	2-21
Northfield, . . .	2-50	217	165	Northfield, . . .	2-20
Oakham, . . .	2-48	111	166	Oakham, . . .	2-20
Essex, . . .	2-47	226	167	Essex, . . .	2-19
Rochester, . . .	2-47	113	168	Rochester, . . .	2-19

For 1864-5.	For 1865-6.	TOWNS.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.	For 1864-5.	For 1865-6.	TOWNS.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.
116	169	Hanson, . . .	\$.002-18	192	218	Berlin, . . .	\$.001-99
117	170	Phillipston, . . .	2-18	156	219	Duxbury, . . .	1-99
257	171	Salem, . . .	2-18	159	220	Ipswich, . . .	1-99
121	172	Ashburnham, . . .	2-17	157	221	Lancaster, . . .	1-99
188	173	Brewster, . . .	2-17	223	222	New Bedford, . . .	1-99
258	174	Wenham, . . .	2-16	215	223	Southampton, . . .	1-99
123	175	Chesterfield, . . .	2-15	161	224	Halifax, . . .	1-98
207	176	Hull, . . .	2-15	261	225	Leyden, . . .	1-97
168	177	North Chelsea, . . .	2-15	228	226	Longmeadow, . . .	1-97
125	178	Palmer, . . .	2-15	165	227	Burlington, . . .	1-96
272	179	Williamstown, . . .	2-15	195	228	Sharon, . . .	1-95
184	180	Winchendon, . . .	2-15	233	229	Somerset, . . .	1-95
164	181	Fall River, . . .	2-14	169	230	Southbridge, . . .	1-95
197	182	West Newbury, . . .	2-14	170	231	Wilbraham, . . .	1-95
126	183	Granby, . . .	2-13	281	232	Worthington, . . .	1-95
60	184	Dorchester, . . .	2-12	252	233	Waltham, . . .	1-93
174	185	Edgartown, . . .	2-12	266	234	Woburn, . . .	1-91
131	186	Leverett, . . .	2-11	284	235	Dracut, . . .	1-90
187	187	Middleborough, . . .	2-11	229	236	Monson, . . .	1-90
177	188	Oxford, . . .	2-11	213	237	Auburn, . . .	1-88
132	189	Russell, . . .	2-11	268	238	Coleraine, . . .	1-86
134	190	Boxborough, . . .	2-10	276	239	Adams, . . .	1-87
166	191	Sandisfield, . . .	2-10	259	240	Hanover, . . .	1-87
238	192	Northampton, . . .	2-09	180	241	Marshfield, . . .	1-87
140	193	Plainfield, . . .	2-09	182	242	Rutland, . . .	1-86
141	194	Spencer, . . .	2-09	198	243	Conway, . . .	1-85
49	195	Pembroke, . . .	2-08	199	244	Mattapoisett, . . .	1-85
214	196	Salisbury, . . .	2-08	201	245	Sturbridge, . . .	1-85
194	197	Savoy, . . .	2-08	203	246	Barre, . . .	1-84
143	198	Westminster, . . .	2-08	234	247	Warren, . . .	1-83
216	199	Swampscott, . . .	2-07	244	248	Falmouth, . . .	1-82
147	200	Taunton, . . .	2-07	313	249	Shelburne, . . .	1-82
196	201	Uxbridge, . . .	2-07	248	250	Brimfield, . . .	1-81
120	202	Hubbardston, . . .	2-06	297	251	Lenox, . . .	1-81
175	203	Leominster, . . .	2-06	208	252	New Braintree, . . .	1-81
145	204	Littleton, . . .	2-06	247	253	Weston, . . .	1-81
222	205	Dudley, . . .	2-05	279	254	W. Bridgewater, . . .	1-80
135	206	Wayland, . . .	2-05	218	255	Norton, . . .	1-78
149	207	Attleborough, . . .	2-04	221	256	Bridgewater, . . .	1-76
211	208	Medford, . . .	2-04	227	257	Lakeville, . . .	1-75
267	209	Canton, . . .	2-03	230	258	Rehoboth, . . .	1-75
269	210	Hadley, . . .	2-03	225	259	Sheffield, . . .	1-75
146	211	Mansfield, . . .	2-02	231	260	Sutton, . . .	1-75
152	212	South Scituate, . . .	2-02	232	261	Carver, . . .	1-74
265	213	West Boylston, . . .	2-02	91	262	Marion, . . .	1-74
260	214	Harvard, . . .	2-01	271	263	Sterling, . . .	1-73
93	215	Tyngsborough, . . .	2-01	237	264	Mt. Washington, . . .	1-71
162	216	Mendon, . . .	2-00	239	265	Freetown, . . .	1-70
154	217	Tyringham, . . .	2-00	240	266	Stow, . . .	1-70



TOWNS.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.	For 1864-5.	For 1865-6.	TOWNS.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.
bury, . . .	\$ .001-69	312	301	Topsfield, . . .	\$ .001-45
lston, . . .	1-69	283	302	Dartmouth, . . .	1-44
lefield, . . .	1-68	285	303	Westport, . . .	1-44
ver, . . .	1-67	292	304	Sudbury, . . .	1-42
rica, . . .	1-66	305	305	Easton, . . .	1-40
lton, . . .	1-66	290	306	Westford, . . .	1-40
ln, . . .	1-65	262	307	Sherborn, . . .	1-38
cely, . . .	1-65	206	308	Williamsburg, . . .	1-38
klina, . . .	1-64	318	309	Pittsfield, . . .	1-37
ld, . . .	1-64	322	310	Egremont, . . .	1-36
wick, . . .	1-64	273	311	Groveland, . . .	1-36
n, . . .	1-64	320	312	Shrewsbury, . . .	1-36
Andover, . . .	1-64	319	313	Raynham, . . .	1-35
onk, . . .	1-63	298	314	Tolland, . . .	1-34
stockbridge, . . .	1-63	299	315	Wilmington, . . .	1-33
nsford, . . .	1-62	301	316	Lynnfield, . . .	1-32
ston, . . .	1-61	325	317	Easthampton, . . .	1-29
eton, . . .	1-61	308	318	Dunstable, . . .	1-28
ton, . . .	1-60	309	319	Gill, . . .	1-28
sbury, . . .	1-60	316	320	Boston, . . .	1-21
le, . . .	1-57	315	321	Lanesborough, . . .	1-21
mark, . . .	1-57	327	322	W. Springfield, . . .	1-21
ville, . . .	1-55	296	323	Northborough, . . .	1-16
ord, . . .	1-53	323	324	Stockbridge, . . .	1-06
on, . . .	1-52	324	325	Hatfield, . . .	1-04
lford, . . .	1-51	330	326	Belmont, . . .	0-97
oe, . . .	1-51	321	327	Gt. Barrington, . . .	0-92
erell, . . .	1-51	326	328	New Ashford, . . .	0-92
Brookfield, . . .	1-49	329	329	Alford, . . .	0-88
aire, . . .	1-48	328	330	Gosnold, . . .	0-88
am, . . .	1-47	334	331	Southwick, . . .	0-83
ield, . . .	1-47	331	332	Hancock, . . .	0-82
Reading, . . .	1-47	332	333	Richmond, . . .	0-80
Roxbury, . . .	1-47	333	334	Bernardston, . . .	0-62

## GRADUATED TABLES—SECOND SERIES.

*In which all the Towns in the respective Counties in the State are numerically arranged, according to the Percentage of their taxable property, appropriated for the support of Public Schools, for the year 1865-6.*

## SUFFOLK COUNTY.

For 1864-5	For 1865-6	TOWNS.	Percentage of Valuation appropriated to Public Schools, estimated in mills and hundredths of mills.	For 1864-5	For 1865-6	TOWNS.	Percentage of Valuation appropriated to Public Schools, estimated in mills and hundredths of mills.
1	1	CHELSEA, .	\$.004-28	8	8	North Chelsea, .	\$.002-15
2	2	Winthrop, .	2-95	4	4	Boston, .	1-21

## ESSEX COUNTY.

1	1	MARBLEHEAD, .	\$.003-75	11	18	Middleton, .	\$.002-29
6	2	Georgetown, .	8-35	14	19	Beverly, .	2-23
2	3	Gloucester, .	8-32	24	20	Essex, .	2-19
3	4	Lynn, .	8-05	25	21	Salem, .	2-18
5	5	Danvers, .	2-95	26	22	Wenham, .	2-16
4	6	South Danvers, .	2-89	18	23	West Newbury, .	2-14
9	7	Haverhill, .	2-80	21	24	Salisbury, .	2-08
8	8	Rockport, .	2-78	22	25	Swampscott, .	2-07
10	9	Newburyport, .	2-72	15	26	Ipswich, .	1-99
16	10	Methuen, .	2-71	81	27	Newbury, .	1-69
7	11	Nahant, .	2-71	80	28	Andover, .	1-67
13	12	Manchester, .	2-66	29	29	Hamilton, .	1-66
12	13	Lawrence, .	2-51	33	30	North Andover, .	1-64
17	14	Saugus, .	2-47	28	31	Boxford, .	1-53
19	15	Bradford, .	2-40	34	32	Topsfield, .	1-45
20	16	Amesbury, .	2-38	27	33	Groveland, .	1-36
23	17	Rowley, .	2-35	32	34	Lynnfield, .	1-32

## MIDDLESEX COUNTY.

1	1	SOMERVILLE, .	\$.004-36	6	5	Melrose, .	\$.003-28
8	2	Marlborough, .	8-83	12	6	Natick, .	8-26
4	3	Malden, .	8-46	8	7	Stoneham, .	8-15
11	4	Watertown, .	8-36	5	8	Reading, .	8-09



## MIDDLESEX COUNTY—CONTINUED.

TOWNS.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.	For 1884-5.	For 1885-6.	TOWNS.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.
and, . . .	\$ .003-00	27	31	Wayland, . . .	\$ .002-05
Chester, . . .	2-95	35	32	Medford, . . .	2-04
ston, . . .	2-98	19	33	Tyngsborough, . . .	2-01
Westtown, . . .	2-92	81	34	Burlington, . . .	1-96
Reading, . . .	2-81	41	35	Waltham, . . .	1-93
Bridge, . . .	2-80	44	36	Woburn, . . .	1-91
ton, . . .	2-78	46	37	Dracut, . . .	1-90
Send, . . .	2-71	38	38	Weston, . . .	1-81
on, . . .	2-69	36	39	Stow, . . .	1-70
ey, . . .	2-66	39	40	Billerica, . . .	1-66
Cambridge, . . .	2-65	40	41	Lincoln, . . .	1-65
inton, . . .	2-57	50	42	Chelmsford, . . .	1-62
y, . . .	2-56	43	43	Tewksbury, . . .	1-60
ord, . . .	2-53	37	44	Carlisle, . . .	1-57
ord, . . .	2-45	34	45	Pepperell, . . .	1-51
ngton, . . .	2-40	45	46	North Reading, . . .	1-47
ill, . . .	2-38	48	47	Sudbury, . . .	1-42
n, . . .	2-34	47	48	Westford, . . .	1-40
ingham, . . .	2-32	42	49	Sherborn, . . .	1-38
on, . . .	2-25	49	50	Wilmington, . . .	1-33
orough, . . .	2-10	51	51	Dunstable, . . .	1-28
ton, . . .	2-06	52	52	Belmont, . . .	0-97

## WORCESTER COUNTY.

THBRIDGE, . . .	\$ .004-45	26	22	Charlton, . . .	\$ .002-30
borough, . . .	8-48	54	23	Holden, . . .	2-29
ury, . . .	8-23	17	24	Blackstone, . . .	2-26
rookfield, . . .	8-17	49	25	Lunenburg, . . .	2-25
rd, . . .	8-05	34	26	Gardner, . . .	2-21
, . . .	2-89	13	27	Oakham, . . .	2-20
las, . . .	2-87	14	28	Phillipston, . . .	2-18
, . . .	2-86	16	29	Ashburnham, . . .	2-17
n, . . .	2-80	33	30	Winchendon, . . .	2-15
on, . . .	2-76	31	31	Oxford, . . .	2-11
ster, . . .	2-69	21	32	Spencer, . . .	2-09
burg, . . .	2-60	22	33	Westminster, . . .	2-08
kfield, . . .	2-57	37	34	Uxbridge, . . .	2-07
leton, . . .	2-55	15	35	Hubbardston, . . .	2-06
ester, . . .	2-48	30	36	Leominster, . . .	2-06
ester, . . .	2-46	44	37	Dudley, . . .	2-05
sham, . . .	2-45	52	38	West Boylston, . . .	2-02
on, . . .	2-42	50	39	Harvard, . . .	2-01
on, . . .	2-40	27	40	Mendon, . . .	2-00
nborough, . . .	2-40	35	41	Berlin, . . .	1-99
on, . . .	2-36	24	42	Lancaster, . . .	1-99

## WORCESTER COUNTY—CONTINUED.

For 1864-5.	For 1865-6.	TOWNS.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.	For 1864-5.	For 1865-6.	TOWNS.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.
28	43	Southbridge,	\$.001-95	53	51	Sterling,	\$.001-73
42	44	Auburn,	1-88	48	52	Royalston,	1-69
32	45	Rutland,	1-86	56	53	Hardwick,	1-64
38	46	Sturbridge,	1-85	55	54	Princeton,	1-61
39	47	Barre,	1-84	51	55	Boylston,	1-60
46	48	Warren,	1-83	43	56	West Brookfield,	1-49
41	49	New Braintree,	1-81	58	57	Shrewsbury,	1-36
45	50	Sutton,	1-75	57	58	Northborough,	1-16

## HAMPSHIRE COUNTY.

1	1	PELHAM,	\$.003-96	11	13	Granby,	\$.002-13
3	2	Ware,	3-52	17	14	Northampton,	2-09
2	3	Greenwich,	3-06	12	15	Plainfield,	2-09
6	4	Cummington,	2-91	19	16	Hadley,	2-03
16	5	Westhampton,	2-75	15	17	Southampton,	1-99
14	6	Belchertown,	2-71	20	18	Worthington,	1-95
8	7	Prescott,	2-71	18	19	Middlefield,	1-68
5	8	Amherst,	2-68	21	20	Enfield,	1-64
4	9	Goshen,	2-62	13	21	Williamsburg,	1-38
9	10	Huntington,	2-44	23	22	Easthampton,	1-29
7	11	South Hadley,	2-27	22	23	Hatfield,	1-04
10	12	Chesterfield,	2-15				

## HAMPDEN COUNTY.

1	1	CHICOPEE,	\$.004-06	13	12	Longmeadow,	\$.001-97
2	2	Wales,	2-95	9	13	Wilbraham,	1-95
5	3	Ludlow,	2-86	14	14	Monson,	1-90
3	4	Holyoke,	2-71	16	15	Brimfield,	1-81
8	5	Springfield,	2-71	17	16	Granville,	1-55
11	6	Montgomery,	2-52	19	17	Blandford,	1-51
15	7	Westfield,	2-47	12	18	Agawam,	1-47
10	8	Holland,	2-29	18	19	Tolland,	1-34
4	9	Chester,	2-24	20	20	W. Springfield,	1-21
6	10	Palmer,	2-15	21	21	Southwick,	0-83
7	11	Russell,	2-11				

## FRANKLIN COUNTY.

1	1	WARWICK,	\$.004-31	8	4	Deerfield,	\$.003-33
2	2	Hawley,	3-83	5	5	Rowe,	3-83
7	3	Sunderland,	3-62	3	6	Erving,	3-14

## FRANKLIN COUNTY—CONTINUED.

TOWNS.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.	For 1884-5	For 1885-6	TOWNS.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.
h, . . .	\$ .003-01	17	17	Northfield, . .	\$ .002-20
ge, . . .	3-00	18	18	Leverett, . . .	2-11
Salem, . .	2-97	20	19	Leyden, . . .	1-97
nfield, . .	2-95	21	20	Coleraine, . . .	1-88
ague, . . .	2-74	16	21	Conway, . . .	1-85
sbury, . .	2-74	25	22	Shelburne, . .	1-82
ell, . . .	2-52	22	23	Whately, . . .	1-65
eld, . . .	2-45	23	24	Monroe, . . .	1-51
emont, . .	2-45	24	25	Gill, . . .	1-28
land, . . .	2-28	26	26	Bernardston, .	0-62

## BERKSHIRE COUNTY.

IDA, . . .	\$ .005-25	18	17	Lenox, . . .	\$ .001-81
erey, . . .	3-09	13	18	Sheffield, . .	1-75
et, . . .	2-57	14	19	Mt. Washington, .	1-71
arlborough, .	2-51	19	20	W. Stockbridge, .	1-63
nington, . .	2-50	21	21	Dalton, . . .	1-52
ale, . . .	2-42	23	22	Cheshire, . . .	1-48
. . .	2-37	24	23	Pittsfield, . . .	1-37
. . .	2-33	26	24	Egremont, . . .	1-36
lsor, . . .	2-31	22	25	Lanesborough, .	1-21
. . .	2-26	27	26	Stockbridge, . .	1-06
sbury, . .	2-25	25	27	Gt. Barrington, .	0-92
amstown, . .	2-15	28	28	New Ashford, . .	0-92
isfield, . .	2-10	29	29	Alford, . . .	0-88
y, . . .	2-08	30	30	Hancock, . . .	0-82
gham, . . .	2-00	31	31	Richmond, . . .	0-80
us, . . .	1-87				

## NORFOLK COUNTY.

BOROUGH, .	\$ .003-66	18	13	Randolph, . . .	\$ .002-39
ngham, . .	3-32	8	14	Wrentham, . . .	2-37
cy, . . .	3-23	18	15	Dover, . . .	2-23
am, . . .	3-17	14	16	Cohasset, . . .	2-21
ghton, . .	3-16	7	17	Dorchester, . .	2-12
mouth, . .	3-14	20	18	Canton, . . .	2-03
ham, . . .	2-97	17	19	Sharon, . . .	1-95
ury, . . .	2-72	21	20	Brookline, . . .	1-64
ole, . . .	2-65	23	21	Milton, . . .	1-64
tree, . . .	2-53	19	22	Medfield, . . .	1-47
klin, . . .	2-44	22	23	West Roxbury, .	1-47
vay, . . .	2-40				

## BRISTOL COUNTY.

For 1864-5.	For 1865-6.	TOWNS.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.	For 1864-5.	For 1865-6.	TOWNS.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.
1	1	BERKLEY, .	\$ .003-16	13	11	Somerset, .	\$ .001-95
4	2	Acushnet, .	3-05	10	12	Norton, .	1-78
5	3	Fairhaven, .	2-53	12	13	Rehoboth, .	1-75
2	4	Swansey, .	2-33	14	14	Freetown, .	1-70
8	5	Dighton, .	2-32	15	15	Seekonk, .	1-63
9	6	Fall River, .	2-14	16	16	Dartmouth, .	1-44
7	7	Taunton, .	2-07	17	17	Westport, .	1-44
8	8	Attleborough, .	2-04	18	18	Easton, .	1-40
6	9	Mansfield, .	2-02	19	19	Raynham, .	1-35
11	10	New Bedford, .	1-99				

## PLYMOUTH COUNTY.

1	1	PLYMOUTH, .	\$ .003-82	13	14	South Scituate, .	\$ .002-02
4	2	Abington, .	3-27	14	15	Duxbury, .	1-99
8	3	N. Bridgewater, .	3-17	15	16	Halifax, .	1-98
11	4	Scituate, .	2-93	23	17	Hanover, .	1-87
2	5	Wareham, .	2-83	17	18	Marshfield, .	1-87
8	6	E. Bridgewater, .	2-64	18	19	Mattapoisett, .	1-85
5	7	Plympton, .	2-63	25	20	W. Bridgewater, .	1-80
12	8	Hingham, .	2-27	20	21	Bridgewater, .	1-76
9	9	Rochester, .	2-19	21	22	Lakeville, .	1-75
10	10	Hanson, .	2-18	22	23	Carver, .	1-74
19	11	Hull, .	2-15	7	24	Marion, .	1-74
16	12	Middleborough, .	2-11	24	25	Kingston, .	1-61
6	13	Pembroke, .	2-08				

## BARNSTABLE COUNTY.

1	1	TRURO, .	\$ .003-87	9	8	Barnstable, .	\$ .003-09
2	2	Wellfleet, .	3-72	8	9	Sandwich, .	3-00
7	3	Harwich, .	3-41	12	10	Dennis, .	2-54
3	4	Orleans, .	3-22	11	11	Yarmouth, .	2-43
5	5	Chatham, .	3-18	10	12	Brewster, .	2-17
4	6	Eastham, .	3-18	13	13	Falmouth, .	1-82
6	7	Provincetown, .	3-17				

## DUKES COUNTY.

1	1	TISBURY, .	\$ .002-63	3	3	Chilmark, .	\$ .001-57
2	2	Edgartown, .	2-12	4	4	Gosnold, .	0-88

## NANTUCKET COUNTY.

NANTUCKET, .							\$ .003-72
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For 1845	COUNTIES.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.	Amount of money raised by taxes for the support of Public Schools.	Income of Surplus Revenue, and of similar funds, appropriated for Public Schools.	TOTAL.	Valuation of 1865.	Amount contributed for board and fuel.
For 1865							
1	NANTUCKET,	\$ .003-72	\$8,000 00	—	\$8,000 00	\$2,152,568 00	—
2	Barnstable,	2-89	41,200 00	\$106 00	41,306 00	14,276,198 00	\$2,129 75
3	Middlesex,	2-60	403,432 50	—	403,432 50	155,324,728 00	1,448 50
5	Essex,	2-62	226,480 23	1,320 33	227,800 56	90,393,467 00	871 00
9	Hampden,	2-51	83,453 00	133 00	83,636 00	38,253,177 00	5,454 87
4	Plymouth,	2-50	69,801 99	—	69,801 99	27,982,068 00	1,068 26
6	Franklin,	2-49	32,212 61	347 54	32,560 15	13,048,120 00	4,970 14
8	Norfolk,	2-44	231,602 29	665 89	232,268 18	95,097,794 00	371 00
7	Worcester,	2-34	186,764 27	569 37	189,333 64	80,357,766 00	1,962 19
9	Hampshire,	2-15	43,881 00	236 98	44,117 98	20,510,994 00	5,639 80
10	Dukes,	2-13	4,650 00	—	4,650 00	2,188,975 00	66 00
11	Bristol,	2-00	118,233 61	600 20	118,833 81	59,464,668 00	1,468 20
12	Berkshire,	1-67	45,921 60	638 41	46,565 01	27,937,444 00	9,695 41
13	Suffolk,	1-26	495,419 29	—	495,419 29	387,276,700 00	—
14							

## AGGREGATE FOR THE STATE.

14 Counties,	\$ .001-98	\$1,993,052 39	\$4,662 72	\$1,997,715 11	\$1,009,709,652 00	\$35,133 11
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*Arrangement of the Counties, according to their Appropriations, including Voluntary Contributions.*

If the Counties are numerically arranged, according to the percentage of their valuations appropriated for Public Schools, voluntary contributions of board and fuel being added to the sum raised by tax and to the income of the Surplus Revenue, as severally given in the previous Table, the order of precedence will be as follows:—

For 1864-5	For 1865-6	COUNTIES.	Percentage of Valuation equivalent to mills and hundredths of mills.
1	1	NANTUCKET, . . . . .	\$ .003-72
2	2	Barnstable, . . . . .	3-04
3	3	Franklin, . . . . .	2-88
7	4	Hampden, . . . . .	2-68
5	5	Middlesex, . . . . .	2-61
4	6	Plymouth, . . . . .	2-54
6	7	Essex, . . . . .	2-53
10	8	Norfolk, . . . . .	2-45
9	9	Hampshire, . . . . .	2-43
8	10	Worcester, . . . . .	2-37
11	11	Dukes, . . . . .	2-16
12	12	Bristol, . . . . .	2-02
18	18	Berkshire, . . . . .	2-01
14	14	Suffolk, . . . . .	1-28
Aggregate for the State, . . . . .			\$ .002-01

## GRADUATED TABLES — THIRD SERIES.

g Table exhibits the ratio of the mean average attendance in each whole number of children between 5 and 15, according to the mean average is found by adding the average attendance in the average attendance in Winter, and dividing the amount by 2. (five-tenths) when it occurs in dividing by 2, is reckoned, but is not the column giving the mean average. In some cases the true mean is obtained by this process, for reasons peculiar to the schools of In such cases school committees were requested to indicate in the true mean average, that their result may be inserted in the

expressed in decimals, continued to four figures, the first two of separated from the last two by a point, as only the two former are denote the real per cent. Yet the ratios of many towns are so or the difference is so small a fraction, that the first two decimals, appropriate mathematical sign appended, indicate no distinction. The of the decimals, therefore, is simply to indicate a priority in cases at such continuation, the ratios would appear to be precisely

cases the ratio of attendance exhibited in the Table is over 100 per results, supposing the registers to have been properly kept, and the tly made, are to be thus explained :—the mean average attendance ic Schools, being compared with the whole number of children in ween 5 and 15, the result may be over 100 per cent., because the children under 5 and over 15, may more than compensate for the ildren between those ages.

## GRADUATED TABLES—THIRD SERIES.

*Table, in which all the Towns in the State are numerically arranged, according to the AVERAGE ATTENDANCE of their children upon the Public Schools, for the year 1865-6.*

TOWNS.				TOWNS.					
No. of children between 5 and 15 years of age in each town.				No. of children between 5 and 15 years of age in each town.					
Mean average attend- ance upon School.				Mean average attend- ance upon School.					
Ratio of attendance to the whole No. of chil- dren between 5 and 15, expressed in decimals.				Ratio of attendance to the whole No. of chil- dren between 5 and 15, expressed in decimals.					
1	ASHBY, .	165	203	1.23-33	34	Holland, .	82	75	.91-46
2	Plainfield, .	104	128	1.23-08	35	Brookfield, .	384	351	.91-41
3	Wales, .	105	115	1.10-00	36	N. Braintree, .	149	136	.91-28
4	Dracut, .	279	296	1.06-09	37	Littleton, .	209	190	.91-15
5	Tyngsboro', .	102	108	1.05-88	38	Sherborn, .	210	190	.90-48
6	Warwick, .	173	182	1.05-20	39	Hubbardston, .	333	300	.90-24
7	Westminster, .	337	354	1.05-04	40	Nahant, .	71	64	.90-14
8	Greenwich, .	113	116	1.03-09	41	Orange, .	350	315	.90-00
9	Lunenburg, .	176	180	1.02-27	42	Orleans, .	294	264	.89-80
10	Dunstable, .	90	91	1.01-67	43	Townsend, .	379	340	.89-71
11	Dover, .	136	137	1.01-10	44	Otis, .	186	166	.89-52
12	Templeton, .	450	451	1.00-33	45	Royalston, .	315	282	.89-52
13	Medfield, .	143	139	.97-55	46	Hardwick, .	299	267	.89-30
14	Leominster, .	609	593	.97-37	47	Charlton, .	374	333	.89-04
15	Pepperell, .	334	325	.97-31	48	Groton, .	657	580	.88-28
16	Ashfield, .	202	195	.96-78	49	Barre, .	498	439	.88-25
17	Sudbury, .	250	241	.96-60	50	Goshen, .	82	72	.87-80
18	Dana, .	170	163	.96-18	51	Leverett, .	187	164	.87-70
19	Granby, .	180	172	.95-83	52	Reading, .	510	446	.87-55
20	Wendell, .	130	124	.95-77	53	Worthington, .	198	173	.87-37
21	Paxton, .	127	121	.95-67	54	Pelham, .	145	126	.86-90
22	Heath, .	137	131	.95-62	55	Falmouth, .	431	374	.86-39
23	Northboro', .	271	258	.95-20	56	Acton, .	386	335	.86-79
24	Lynnfield, .	131	124	.95-04	57	Southboro', .	346	299	.86-42
25	Seekonk, .	146	138	.94-86	58	Shirley, .	243	209	.86-21
26	Blandford, .	191	181	.94-76	59	Kingston, .	294	253	.86-06
27	Florida, .	150	142	.94-67	60	Gloucester, .	2,349	2,018	.85-03
28	Gardner, .	511	476	.93-25	61	Carver, .	191	164	.85-86
29	New Salem, .	225	209	.92-89	62	Stow, .	300	257	.85-98
30	Spencer, .	615	571	.92-35	63	Truro, .	291	249	.85-74
31	Marion, .	193	177	.91-97	64	Enfield, .	189	162	.85-71
32	Harvard, .	273	250	.91-76	65	Swampscott, .	291	249	.85-57
33	Monroe, .	36	33	.91-67	66	Princeton, .	244	208	.85-45

				TOWNS.				
					No. of children between 5 and 15 years of age in each town.	Mean average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.	
	No. of children between 5 and 15 years of age in each town.	Mean average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.		No. of children between 5 and 15 years of age in each town.	Mean average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.	
	158	135	.85-44	115	Lakeville, .	187	150	.80-21
	483	412	.85-80	116	Athol, .	592	474	.80-15
	193	164	.85-23	117	Plympton, .	186	148	.79-84
	182	155	.85-16	118	Raynham, .	329	262	.79-79
	751	639	.85-15	119	Concord, .	413	329	.79-78
	222	189	.85-14	120	Lowell, .	5,125	4,088	.79-76
	285	242	.85-09	121	Rochester, .	211	168	.79-62
	660	561	.85-08	122	Woburn, .	1,504	1,197	.79-59
	452	384	.85-07	123	Erving, .	137	109	.79-56
	671	570	.85-02	124	W. Brookfield, .	367	292	.79-56
	129	109	.84-88	125	Ware, .	685	544	.79-42
	175	148	.84-59	126	Coleraine, .	374	296	.79-28
	153	129	.84-31	127	Georgetown, .	410	325	.79-27
	687	577	.84-06	128	Bernardston, .	178	141	.79-21
	4,951	4,160	.84-02	129	Halifax, .	132	104	.79-17
	236	198	.83-90	130	Foxborough, .	534	422	.79-12
	355	297	.83-80	131	Mansfield, .	433	342	.79-10
	107	89	.83-64	132	Framingham, .	900	711	.79-00
	573	479	.83-60	133	Norton, .	351	277	.78-92
	211	176	.83-41	134	Becket, .	320	252	.78-91
	545	454	.83-39	135	Scituate, .	414	326	.78-86
	153	127	.83-33	136	Wenham, .	209	164	.78-71
	270	225	.83-33	137	Needham, .	532	418	.78-67
	204	170	.83-33	138	Tyringham, .	154	121	.78-57
	171	142	.83-04	139	Melrose, .	611	480	.78-56
	207	171	.82-85	140	Westfield, .	1,071	840	.78-48
	454	375	.82-71	441	Weston, .	236	185	.78-39
	282	233	.82-62	142	Chelsea, .	3,264	2,554	.78-26
	667	551	.82-61	143	Wayland, .	239	187	.78-24
	1,237	1,021	.82-58	144	Waltham, .	1,365	1,065	.78-02
	1,452	1,196	.82-37	145	Hopkinton, .	1,001	778	.77-77
	635	522	.82-20	146	Hawley, .	150	116	.77-67
	142	116	.82-04	147	N. Chelsea, .	168	130	.77-67
	423	347	.82-03	148	Newton, .	1,978	1,533	.77-53
	1,243	1,019	.81-98	149	Medford, .	1,161	899	.77-43
	377	309	.81-96	150	Westboro', .	576	445	.77-26
	337	275	.81-75	151	Swansey, .	226	174	.77-21
	1,938	1,575	.81-27	152	Beverly, .	1,132	872	.77-08
	288	234	.81-25	153	Hanson, .	268	206	.77-05
	772	627	.81-22	154	Rehoboth, .	370	285	.77-03
	110	89	.80-91	155	Sutton, .	496	382	.77-02
	708	572	.80-79	156	Deerfield, .	708	545	.76-98
	383	309	.80-68	157	Chester, .	294	226	.76-87
	753	607	.80-68	158	Belchertown, .	568	436	.76-85
	647	520	.80-45	159	E. Bridgewater, .	682	524	.76-83
	158	127	.80-38	160	Brookline, .	956	733	.76-67
	705	566	.80-35	161	Essex, .	342	262	.76-61
	418	335	.80-26	162	Gill, .	141	108	.76-60

	TOWNS.	No. of children between 5 and 14 years of age in each town.	Mean average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 14, expressed in decimals.		TOWNS.	No. of children between 5 and 14 years of age in each town.	Mean average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 14, expressed in decimals.
163	Duxbury, .	498	380	.76-41	211	Chatham, .	626	452	.72-20
164	Danvers, .	1,146	874	.76-27	212	Methuen, .	485	350	.72-16
165	Bolton, .	325	247	.76-15	213	Northfield, .	378	272	.71-96
166	Chilmark, .	94	71	.76-06	214	W. Boylston, .	514	369	.71-89
167	W. Newbury, .	461	350	.76-03	215	Hadley, .	423	304	.71-87
168	Sturbridge, .	417	317	.76-02	216	Wilmington, .	190	186	.71-84
169	Burlington, .	104	79	.75-96	217	Adams, .	1,564	1,122	.71-77
170	Hatfield, .	289	219	.75-95	218	Chelmsford, .	491	351	.71-59
171	Barnstable, .	995	755	.75-98	219	Chicopee, .	1,302	931	.71-51
172	Quincy, .	1,550	1,175	.75-84	220	N. Bridgew'r, .	1,525	1,090	.71-48
173	Savoy, .	190	144	.75-79	221	Chesterfield, .	177	126	.71-47
174	Malden, .	1,537	1,164	.75-78	222	Easthampton, .	542	386	.71-22
175	Freetown, .	335	253	.75-67	223	Uxbridge, .	646	460	.71-21
176	Billerica, .	330	249	.75-61	224	Haverhill, .	2,008	1,429	.71-19
177	Conway, .	324	244	.75-46	225	Fitchburg, .	1,670	1,185	.70-99
178	Dighton, .	330	249	.75-45	226	Leicester, .	543	385	.70-90
179	Southwick, .	253	190	.75-30	227	Manchester, .	377	267	.70-82
180	Amesbury, .	319	616	.75-27	228	Buckland, .	405	286	.70-74
181	Weymouth, .	1,779	1,339	.75-27	229	Tewksbury, .	264	186	.70-45
182	Milton, .	507	381	.75-25	230	Dorchester, .	2,336	1,642	.70-31
183	Northbridge, .	599	450	.75-21	231	W. Bridgew'r, .	417	292	.70-14
184	Belmont, .	250	188	.75-20	232	Charlemont, .	249	174	.70-08
185	Montague, .	372	279	.75-18	233	Ludlow, .	275	192	.70-00
186	Longmeadow, .	273	205	.75-09	234	Saugus, .	429	300	.69-93
187	Winchendon, .	584	438	.75-09	235	So. Reading, .	697	487	.69-87
188	Hanover, .	316	236	.74-84	236	Winthrop, .	181	91	.69-85
189	Pittsfield, .	1,816	1,355	.74-64	237	Hingham, .	683	476	.69-77
190	Grafton, .	340	628	.74-58	238	Webster, .	577	402	.69-76
191	Middleton, .	208	155	.74-52	239	Edgartown, .	375	261	.69-73
192	Natick, .	1,135	843	.74-27	240	Williamsburg, .	469	327	.69-72
193	N. Bedford, .	3,852	2,860	.74-25	241	Dedham, .	1,506	1,048	.69-62
194	Shutesbury, .	188	139	.74-20	242	So. Scituate, .	327	227	.69-42
195	Huntington, .	238	176	.74-16	243	Russell, .	150	104	.69-33
199	Monson, .	557	412	.73-97	244	Palmer, .	646	447	.69-27
197	Cohasset, .	380	281	.73-95	245	Harwich, .	328	573	.69-26
198	Brimfield, .	226	167	.73-90	246	Lenox, .	286	197	.69-06
199	So. Hadley, .	439	324	.73-80	247	Whately, .	218	150	.69-04
200	Somerset, .	419	309	.73-75	248	Leyden, .	125	86	.68-80
201	Winchester, .	481	353	.73-49	149	Middleboro', .	973	667	.68-60
202	Abington, .	2,103	1,535	.72-99	250	Rowley, .	270	185	.68-52
203	Walpole, .	401	292	.72-94	251	Roxbury, .	6,109	4,171	.68-28
204	Milford, .	2,262	1,643	.72-86	252	Wrentham, .	629	429	.68-28
205	Lincoln, .	145	105	.72-76	253	Yarmouth, .	522	355	.68-10
206	Wellsfleet, .	540	392	.72-69	254	Andover, .	1,039	705	.67-90
207	Tisbury, .	350	253	.72-43	255	Dalton, .	256	172	.67-38
208	Brewster, .	305	220	.72-30	256	Lynn, .	4,369	2,939	.67-28
209	Shrewsbury, .	315	227	.72-22	257	Pembroke, .	310	208	.67-26
210	Boston, .	34902	25201	.72-21	258	Taunton, .	3,250	2,179	.67-06



	No. of children between 5 and 15 years of age in each town.	Mean average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.	TOWNS.	No. of children between 5 and 15 years of age in each town.	Mean average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.
d.,	3,713	2,489	.67-05	298 Attleboro', .	1,352	828	.61-24
r.,	5,983	4,004	.66-93	299 Sheffield, .	524	319	.60-97
e.,	148	99	.66-90	300 Groveland, .	315	191	.60-80
m.,	314	210	.66-88	301 Hancock, .	229	139	.60-70
.	444	296	.66-78	302 Bridgewater, .	787	477	.60-67
.	828	551	.66-61	303 Sharon, .	284	171	.60-21
.	833	553	.66-39	304 W. Spring'ld, .	417	250	.60-07
e.,	6,999	4,641	.66-31	205 New Ashford, .	35	21	.60-00
.	289	191	.66-26	306 Tolland, .	127	76	.59-84
.	887	586	.66-12	307 Dartmouth, .	725	430	.59-38
ro',	373	246	.66-09	208 Ashland, .	346	204	.58-96
.	1,403	924	.65-89	309 Hamilton, .	170	100	.58-82
.	227	149	.65-86	310 Sandwich, .	915	537	.58-74
.	200	131	.65-75	311 Westhamp'n, .	147	86	.58-50
.	641	421	.65-68	312 Egremont, .	191	111	.58-38
.	349	229	.65-62	313 Cheshire, .	372	217	.58-33
.	152	99	.65-13	314 Clinton, .	897	521	.58-14
ng,	222	143	.64-64	315 Newburyport, .	2,994	1,737	.58-00
's,	273	176	.64-47	316 Williams'wn, .	563	326	.58-00
.	565	364	.64-42	317 Salem, .	3,921	2,243	.57-22
er,	1,113	713	.64-11	318 Lee, .	947	541	.57-13
ton,	498	318	.63-86	319 Bradford, .	323	184	.57-12
.	1,665	1,060	.63-69	320 Montgomery, .	86	49	.56-98
g'n	437	277	.63-39	321 Wareham, .	674	380	.56-38
.	61	38	.63-11	322 Hull, .	53	29	.55-66
.	1,623	1,024	.63-09	323 Warren, .	422	234	.55-45
rs,	1,483	932	.62-90	324 N. Brookfield, .	867	474	.54-73
.	278	188	.62-59	325 Mattapoisett, .	289	158	.54-67
g.,	120	75	.62-50	326 Stockbridge, .	492	269	.54-67
ton,	266	166	.62-41	327 W. Stock'ge, .	357	195	.54-62
.	751	468	.62-32	328 Lawrence, .	3,613	1,967	.54-44
.	364	226	.62-23	329 Southbridge, .	930	498	.53-55
.	318	197	.62-11	330 Washington, .	211	106	.50-47
.	1,137	705	.62-05	331 Blackstone, .	1,142	574	.50-31
d.,	63	39	.61-90	332 Gosnold, .	19	9	.50-00
g'n,	383	237	.61-88	333 Fall River, .	4,164	2,073	.49-78
d.,	830	512	.61-69	334 Peru, .	122	53	.43-85
.	633	390	.61-69	Marshpee, .	70	35	.50-00
.	291	179	.61-51				

## GRADUATED TABLES—THIRD SERIES.

*Table, in which all the Towns in the respective Counties in the State are numerically arranged, according to the mean average attendance of their children upon the Public Schools, for the year 1865-6.*

[For an explanation of the principle on which these Tables are constructed, see ante p. lxxv.]

## SUFFOLK COUNTY.

	TOWNS.	No. of children between 5 and 15 years of age in each town.	Mean average attendance upon School.	Ratio of attendance to the No. of children between 5 and 15, expressed in decimals.		TOWNS.	No. of children between 5 and 15 years of age in each town.	Mean average attendance upon School.	Ratio of attendance to the No. of children between 5 and 15, expressed in decimals.
1	CHELSEA, .	3,264	2,554	.78-26	3	Boston, .	34,902	25,201	.72-21
2	N. Chelsea, .	168	130	.77-67	4	Winthrop, .	131	91	.69-85

## ESSEX COUNTY.

1	LYNNFIELD, .	131	124	.95-04	18	Haverhill, .	2,008	1,429	.71-19
2	Nahant, .	71	64	.90-14	19	Manchester, .	377	267	.70-82
3	Gloucester, .	2,349	2,018	.85-93	20	Saugus, .	429	300	.69-63
4	Swampscott, .	291	249	.85-57	21	Rowley, .	270	185	.68-62
5	Boxford, .	193	164	.85-23	22	Andover, .	1,039	705	.67-90
6	Ipswich, .	687	577	.84-06	23	Lynn, .	4,369	2,939	.67-28
7	Rockport, .	667	551	.82-61	24	Topsfield, .	227	149	.65-86
8	Marblehead, .	1,452	1,196	.82-37	25	N. Andover, .	498	318	.63-86
9	Georgetown, .	410	325	.79-27	26	So. Danvers, .	1,483	932	.62-90
10	Wenham, .	209	164	.78-71	27	Newbury, .	278	188	.62-59
11	Beverly, .	1,132	872	.77-08	28	Salisbury, .	751	468	.62-32
12	Essex, .	342	262	.76-61	29	Groveland, .	315	191	.60-80
13	Danvers, .	1,146	874	.76-27	30	Hamilton, .	170	100	.58-82
14	W. Newbury, .	461	350	.76-03	31	Newburypt, .	2,994	1,737	.58-00
15	Amesbury, .	819	616	.75-27	32	Salem, .	3,921	2,243	.57-22
16	Middleton, .	208	155	.74-52	33	Bradford, .	323	184	.57-12
17	Methuen, .	485	350	.72-16	34	Lawrence, .	3,613	1,967	.54-44

## MIDDLESEX COUNTY.

No. of children between 5 and 15 years of age in each town.	Mean average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.	TOWNS.			No. of children between 5 and 15 years of age in each town.	Mean average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.
165	203	1.23-33	27	Concord,	413	329	.79-78	
279	296	1.06-09	28	Lowell,	5,125	4,088	.79-76	
102	108	1.05-88	29	Woburn,	1,504	1,197	.79-59	
90	91	1.01-67	30	Framingham,	900	711	.79-00	
334	325	.97-31	31	Melrose,	611	480	.78-56	
250	241	.96-60	32	Weston,	236	185	.78-39	
209	190	.91-15	33	Wayland,	239	187	.78-24	
210	190	.90-48	34	Waltham,	1,365	1,065	.78-02	
379	340	.89-71	35	Hopkinton,	1,001	778	.77-77	
657	580	.88-28	36	Newton,	1,978	1,533	.77-53	
510	446	.87-55	37	Medford,	1,161	899	.77-43	
386	335	.86-79	38	Burlington,	104	79	.75-96	
243	209	.86-21	39	Malden,	1,537	1,164	.75-73	
300	257	.85-83	40	Billerica,	330	249	.75-61	
751	639	.85-15	41	Belmont,	250	188	.75-20	
285	242	.85-09	42	Natick,	1,135	843	.74-27	
671	570	.85-02	43	Winchester,	481	353	.73-49	
129	109	.84-88	44	Lincoln,	145	105	.72-76	
4,951	4,160	.84-02	45	Wilmington,	190	136	.71-84	
107	89	.83-64	46	Chelmsford,	491	351	.71-59	
573	479	.83-60	47	Tewksbury,	264	186	.70-45	
545	454	.83-39	48	S. Reading,	697	487	.69-87	
1,938	1,575	.81-27	49	Cambridge,	6,999	4,641	.66-31	
708	572	.80-79	50	N. Reading,	222	143	.64-64	
158	127	.80-38	51	Marlboro',	1,623	1,024	.63-09	
418	335	.80-26	52	Ashland,	346	204	.58-96	

## WORCESTER COUNTY.

SR	337	354	1.05-04	14	Royalston, .	315	282	.89-52
g, .	176	180	1.02-27	15	Hardwick, .	299	267	.89-30
, .	450	451	1.00-33	16	Charlton, .	374	333	.89-04
r, .	609	593	.97-37	17	Barre, .	498	439	.88-25
	170	163	.96-18	18	Southboro', .	346	299	.86-42
	127	121	.95-67	19	Princeton, .	244	208	.85-45
, .	271	258	.95-20	20	Phillipston, .	153	129	.84-31
	511	476	.93-25	21	Rutland, .	236	198	.83-90
	615	571	.92-85	22	Upton, .	355	297	.83-80
	273	250	.91-76	23	Auburn, .	211	176	.83-41
	384	351	.91-41	24	Boylston, .	153	127	.83-33
ee, .	149	136	.91-28	25	Lancaster, .	270	225	.83-33
on, .	333	300	.90-24	26	Oakham, .	204	170	.83-33



## WORCESTER COUNTY—CONTINUED.

TOWNS.				TOWNS.					
		No. of children between 5 and 15 years of age in each town.	Mean average attend- ance upon school.	Ratio of attendance to the whole No. of chil- dren between 5 and 15, expressed in decimals.			No. of children between 5 and 15 years of age in each town.	Mean average attend- ance upon school.	Ratio of attendance to the whole No. of chil- dren between 5 and 15, expressed in decimals.
27	Berlin, .	207	171	.82-85	43	Shrewsbury,	315	227	.72-22
28	Ashburnham,	454	375	.82-71	44	W. Boylston,	514	369	.71-89
29	Douglas, .	423	347	.82-03	45	Uxbridge, .	646	460	.71-21
30	Sterling, .	387	275	.81-75	46	Fitchburg, .	1,670	1,185	.70-99
31	Petersham, .	288	234	.81-25	47	Leicester, .	543	385	.70-90
32	Holden, .	383	309	.80-68	48	Webster, .	577	402	.69-76
33	Athol, .	592	474	.80-15	49	Worcester, .	5,983	4,004	.68-93
34	W. Brookfield,	367	292	.79-56	50	Mendon, .	289	191	.68-26
35	Westboro', .	576	445	.77-26	51	Millbury, .	887	586	.68-12
36	Sutton, .	496	382	.77-02	52	Oxford, .	565	364	.64-42
37	Bolton, .	325	247	.76-15	53	Dudley, .	437	277	.63-39
38	Sturbridge, .	417	317	.76-02	54	Clinton, .	897	521	.58-14
39	Northbridge, .	599	450	.75-21	55	Warren, .	422	234	.55-45
40	Winchendon,	584	438	.75-09	56	N. Brook'ld,	867	474	.54-73
41	Grafton, .	840	626	.74-58	57	Southbridge,	930	498	.53-55
42	Milford, .	2,262	1,648	.72-86	58	Blackstone, .	1,142	574	.50-31

## HAMPSHIRE COUNTY.

1	PLAINFIELD, .	104	128	1.23-08	13	Belchertown, .	568	436	.76-85
2	Greenwich, .	113	116	1.03-09	14	Hatfield, .	289	219	.75-95
3	Granby, .	180	172	.95-83	15	Huntington, .	288	176	.74-16
4	Goshen, .	82	72	.87-80	16	So. Hadley, .	439	324	.73-30
5	Worthington, .	198	173	.87-37	17	Hadley, .	423	304	.71-37
6	Pelham, .	145	128	.86-90	18	Chesterfield, .	177	126	.71-47
7	Enfield, .	189	162	.85-71	19	Easthampton, .	542	386	.71-22
8	Middlefield, .	158	135	.85-44	20	Williamburg, .	469	327	.69-72
9	Cummington, .	222	189	.85-14	21	Northamp'n, .	1,665	1,060	.63-69
10	Amherst, .	685	522	.82-20	22	Southamp'n, .	266	166	.62-41
11	Prescott, .	110	89	.80-91	23	Westamp'n, .	147	86	.58-50
12	Ware, .	685	544	.79-42					

## HAMPDEN COUNTY.

1	WALES, .	105	115	1.10-00	6	Southwick, .	253	190	.75-30
2	Blandford, .	191	181	.94-76	7	Longmeadow, .	273	205	.75-09
3	Holland, .	82	75	.91-46	8	Monson, .	557	412	.73-97
4	Westfield, .	1,071	840	.78-48	9	Brimfield, .	226	167	.73-90
5	Chester, .	294	226	.76-87	10	Chicopee, .	1,302	931	.71-51

## HAMPDEN COUNTY—CONTINUED.

				TOWNS.			
	No. of children between 5 and 15 years of age in each town.	Mean average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.		No. of children between 5 and 15 years of age in each town.	Mean average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.
.	275	192	.70-00	17 Agawam, .	364	226	.62-23
.	150	104	.69-33	18 Granville, .	318	197	.62-11
.	646	447	.69-27	19 W. Spring'ld,	417	250	.60-07
d.,	3,713	2,489	.67-05	20 Tolland, .	127	76	.59-84
m.,	444	296	.66-78	21 Montgomery,	86	49	.56-98
.	1,113	713	.64-11				

## FRANKLIN COUNTY.

K.,	173	182	1.05-20	14 Deerfield, .	708	545	.76-98
.	202	195	.96-78	15 Gill, .	141	108	.76-60
.	130	124	.95-77	16 Conway, .	324	244	.75-46
.	137	131	.95-62	17 Montague, .	372	279	.75-13
m.,	225	209	.92-89	18 Shutesbury, .	188	139	.74-20
.	36	33	.91-67	19 Northfield, .	378	272	.71-96
.	350	315	.90-00	20 Buckland, .	405	286	.70-74
.	187	164	.87-70	21 Charlemont,	249	174	.70-08
d.,	182	155	.85-16	22 Whately, .	218	150	.69-04
.	137	109	.79-56	23 Leyden, .	125	86	.68-80
.	374	296	.79-28	24 Rowe, .	148	99	.66-90
on,	178	141	.79-21	25 Shelburne, .	314	210	.66-88
.	150	116	.77-67	26 Greenfield, .	633	390	.61-69

## BERKSHIRE COUNTY.

.	150	142	.94-67	17 Clarksburg, .	120	75	.62-50
.	186	166	.89-52	18 Alford, .	63	39	.61-90
.	171	142	.83-04	19 Sandisfield, .	383	237	.61-88
.	320	252	.78-91	20 Gt. Barrington,	830	512	.61-69
d.,	154	121	.78-57	21 Sheffield, .	524	319	.60-97
.	190	144	.75-79	22 Hancock, .	229	139	.60-70
.	1,816	1,355	.74-64	23 New Ashford,	35	21	.60-00
.	1,564	1,122	.71-77	24 Egremont, .	191	111	.58-38
.	286	197	.69-06	25 Cheshire, .	372	217	.58-33
.	256	172	.67-38	26 Williams'wn,	563	326	.58-00
d.,	373	246	.66-09	27 Lee, .	947	541	.57-13
.	200	131	.65-75	28 Stockbridge,	492	269	.54-67
.	349	229	.65-62	29 W. Stockbridge,	357	195	.54-62
.	152	99	.65-13	30 Washington,	211	106	.50-47
.	273	176	.64-47	31 Peru, .	122	53	.43-85
'n	61	38	.63-11				



## NORFOLK COUNTY.

TOWNS.				TOWNS.					
		No. of children between 5 and 15 years of age in each town.	Mean average attend- ance upon School.	Ratio of attendance to the whole No. of chil- dren between 5 and 15, expressed in decimals.			No. of children between 5 and 15 years of age in each town.	Mean average attend- ance upon School.	Ratio of attendance to the whole No. of chil- dren between 5 and 15, expressed in decimals.
1	DOVER, .	186	137	1.01-10	13	Cohasset, .	380	281	.73-95
2	Medfield, .	143	139	.97-55	14	Walpole, .	401	292	.72-94
3	Franklin, .	452	384	.85-07	15	Dorchester, .	2,336	1,642	.70-31
4	Bellingham, .	282	233	.82-62	16	Dedham, .	1,506	1,048	.69-62
5	W. Roxbury, .	1,243	1,019	.81-98	17	Roxbury, .	6,109	4,171	.68-28
6	Medway, .	647	520	.80-45	18	Wrentham, .	629	429	.68-28
7	Foxboro', .	534	422	.79-12	19	Canton, .	828	551	.66-61
8	Needham, .	532	418	.78-67	20	Braintree, .	833	553	.66-39
9	Brookline, .	956	733	.76-67	21	Randolph, .	1,403	924	.65-89
10	Quincy, .	1,550	1,173	.75-84	22	Stoughton, .	1,137	705	.62-05
11	Weymouth, .	1,779	1,339	.75-27	23	Sharon, .	284	171	.60-21
12	Milton, .	507	381	.75-25					

## BRISTOL COUNTY.

1	SEEKONK, .	146	138	.94-86	11	Dighton, .	830	249	.75-45
2	Fairhaven, .	483	412	.85-30	12	N. Bedford, .	3,852	2,860	.74-25
3	Easton, .	660	561	.85-08	13	Somerset, .	419	309	.73-75
4	Berkley, .	175	148	.84-59	14	Taunton, .	3,250	2,179	.67-06
5	Raynham, .	329	262	.79-79	15	Westport, .	641	421	.65-68
6	Mansfield, .	433	342	.79-10	16	Acushnet, .	291	179	.61-51
7	Norton, .	351	277	.78-92	17	Attleboro', .	1,352	828	.61-24
8	Swansey, .	226	174	.77-21	18	Dartmouth, .	725	430	.59-38
9	Rehoboth, .	370	285	.77-03	19	Fall River, .	4,164	2,073	.49-78
10	Freetown, .	335	253	.75-67					

## PLYMOUTH COUNTY.

1	MARION, .	193	177	.91-97	14	Hanover, .	316	236	.74-84
2	Kingston, .	294	253	.86-05	15	Abington, .	2,103	1,535	.72-99
3	Carver, .	191	164	.85-86	16	N. Bridgew'r, .	1,525	1,090	.71-48
4	Plymouth, .	1,237	1,021	.82-58	17	W. Bridgew'r, .	417	292	.70-14
5	Marshfield, .	377	309	.81-96	18	Hingham, .	683	476	.69-77
6	Lakeville, .	187	150	.80-21	19	S. Scituate, .	327	227	.69-42
7	Plympton, .	186	148	.79-84	20	Middleboro', .	973	667	.68-60
8	Rochester, .	211	168	.79-62	21	Pembroke, .	310	208	.67-26
9	Halifax, .	132	104	.79-17	22	Bridgewater, .	787	477	.60-67
10	Scituate, .	414	326	.78-86	23	Wareham, .	674	380	.56-38
11	Hanson, .	268	206	.77-05	24	Hull, .	53	29	.55-66
12	E. Bridgew'r, .	682	524	.76-83	25	Mattapoisett, .	289	158	.54-67
13	Duxbury, .	498	380	.76-41					

## BARNSTABLE COUNTY.

	No. of children between 5 and 15 years of age in each town.	Mean average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.	TOWNS.		No. of children between 5 and 15 years of age in each town.	Mean average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.
.	294	264	.89-80	8	Wellfleet, .	540	392	.72-69
.	431	374	.86-89	9	Brewster, .	305	220	.72-30
.	291	249	.85-74	10	Chatham, .	626	452	.72-20
.	142	116	.82-04	11	Harwich, .	828	573	.69-26
.	772	627	.81-22	12	Yarmouth, .	522	355	.68-10
own,	705	566	.80-35	13	Sandwich, .	915	537	.58-74
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K,	94	71	.76-06	3	Edgartown, .	375	261	.69-73
.	350	253	.72-43	4	Gosnold, .	19	9	.50-00

## NANTUCKET COUNTY.

.	.	.	.	.	.	.	753	607	.80-68
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*TABLE, in which all the Counties are numerically arranged, according to the AVERAGE ATTENDANCE of their children upon the Public Schools, for the year 1865-6.*

For 1864-5.	For 1865-6	COUNTIES.	Ratio of attendance, &c.
5	1	SUFFOLK, . . . . .	.81-18
1	2	Nantucket, . . . . .	.80-68
4	3	Middlesex, . . . . .	.77-81
8	4	Franklin, . . . . .	.77-77
8	5	Hampshire, . . . . .	.75-11
9	6	Barnstable, . . . . .	.74-23
2	7	Worcester, . . . . .	.74-19
6	8	Plymouth, . . . . .	.72-90
7	9	Norfolk, . . . . .	.71-83
10	10	Dukes, . . . . .	.71-12
18	11	Hampden, . . . . .	.69-85
11	12	Essex, . . . . .	.68-07
12	13	Bristol, . . . . .	.66-82
14	14	Berkshire, . . . . .	.66-16

#### MEAN AVERAGE ATTENDANCE FOR THE STATE.

Number of children between 5 and 15 years of age in the State, . . . . .	255,323
Mean average attendance, . . . . .	185,135
Ratio of attendance to the whole number of children between 5 and 15, expressed in decimals, . . . . .	.72-51

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n E. D. Sargent—	
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n J. L. Sibley, Librarian—	
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nnual Report of the United States Christian Commis-	
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n John Swett, Superintendent of Pub. Inst., California—	
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town, 1865. Boston, 1866, . . . . .	1
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Annual Report of the Children's Aid Society, New	
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Laws, 1781-1831. Boston, 1823-32,	3
Resolves, 1839-59. Boston, 1839-59,	10
Laws. Vols. 4-7. Boston, 1823-37,	4
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	140

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## PAMPHLETS.

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 School for Girls. Boston, 1866, . . .  
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Map referring to the Campaigns of the Army of the Potomac in Virginia, including the Adjoining Parts of Maryland and Pennsylvania. Compiled by G. R. Bechler, Philadelphia, 1864, . . . . .	1
Fields in Front of Nashville. By M. Pesoux, . . . .	1
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*of Volumes added to the Library from October 1, 1865, to October 1, 1866.*

Purchase, . . . . .	618
Domestic Exchanges, . . . . .	270
Foreign Exchanges, . . . . .	160
Translation, . . . . .	45
Orders of the Government, . . . . .	140

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 1,233

*Number of Pamphlets*

By Purchase, . . . . .	.	.	.	.	.
By Domestic Exchanges, . . . . .	.	.	.	.	.
By Foreign Exchanges, . . . . .	.	.	.	.	.
By Donation, . . . . .	.	.	.	.	.
By Officers of the Government, . . . . .	.	.	.	.	.

Number of Maps, . . . . .



Oct. 9, Nov. 8, 23, 25, Dec. 11, 14, 20, 1866. Jan. 11, 12, 15, 17, 22, 23, 29, 30, Feb. 9, 12, 24, Mar. 19, 21, 29,	To T. O. H. P. Burnham's bill—Books, Hunt's Merchant's Magazine to July, 1866, Draft of Agent in London and Exchange, Boston Daily Traveller to April, 1866, Lovewell's Expedition, Headley's History of the Rebellion, J. L. Fairbanks' bill for Binding and Stationery, Magazine of Horticulture, two years, to Dec., 1866, Banker's Magazine to July, 1866, Recollections of Boston Police, H. B. Dawson's bill—Diary of David How. Journal of Education to Dec., 1866, N. Y. Daily Times to Jan., 1867, Ticknor & Fields' bill—Books, \$3; No. Amer. Review, \$6, J. L. Fairbanks' bill—Binding and Stationery, A. Williams & Co.'s bill—Books, U. S. Service Magazine, Ticknor & Fields' bill—Atlantic Monthly, Tribune Almanac, 1863, '64, and '65, Grant and his Campaigns, W. H. & O. H. Morrison's bill—Books, W. H. & O. H. Morrison's second bill—Books, Cong. Quarterly and Record of Cong. Council, I. P. Langworthy's bill—Books,	\$12 83 5 00 146 46 8 67 4 00 4 00 171 60 4 00 5 00 1 50 4 00 4 00 12 00 9 00 27 30 13 60 5 00 6 40 75 3 00 5 30 28 00 2 75 6 50 \$490 66	Oct. 1, Nov. 3, 1866. Mar. 28, May 2, Sept. 5,	By balance from last account, balance of appropriation for 1865, annual appropriation in part, for 1866, annual appropriation in part, for 1866, annual appropriation in part, for 1866,	\$466 23 800 00 500 00 500 00 500 00
	Amount carried forward, .			Amount carried forward, .	\$2,766 23

## Commonwealth in account with Trustees of State Library—Continued.

Dr.	1866.		1866.	Cr.
		Amount brought forward, .	\$490 68	\$2,768 23
Apr. 6,		To Crosby & Nichols' bill—Foreign Rev., two years, Jan., 1867,	30 00	
7,		Wm. H. Piper & Co.'s bill—Books, .	66 24	
9,		Little, Brown & Co.'s bill—Books, .	40 12	
9,		A. Storrs & Co.'s bill—Library Cards, 5,984,	38 90	
11,		Educational Pamphlets, .	50	
17,		Drafts of Agent in London and Exchange—Books, .	369 87	
27,		J. L. Fairbanks' bill—Binding and Stationery, .	128 80	
May 8,		W. W. Broom's bill—Publications of Loyal Pub. Society,	10 00	
21,		Notices of Catalogues of Harvard University, .	1 50	
26,		Lossing's Civil War in America, Vol. 1, .	6 00	
31,		T. & J. W. Johnson's bill—Books, .	32 35	
June 8,		I. P. Langworthy's bill—Books, .	5 00	
9,		Annual Cyclopaedia, .	5 50	
13,		"Coal, Iron and Oil," .	6 00	
25,		Harper & Brother's bill—Books, .	33 27	
25,		Four Years Fighting, by C. C. Coffin, .	4 50	
28,		The South since the War, .	1 50	
		Amount brought forward, .		\$2,768 23

18,	J. L. Fairbanks' bill—Stationery,	•	•	•	26 55
18,	J. L. Fairbanks' bill—Binding,	•	•	•	199 65
19,	T. & J. W. Johnson's bill—Books,	•	•	•	109 35
26,	Little, Brown & Co.'s bill—Books,	•	•	•	27 75
	Postage, freight, express, &c.,	•	•	•	87 10
	Balance to new account,	•	•	•	419 74
					<hr/>
					\$2,766 28



The vacancies in the board of trustees of two of its members, as noticed in have been filled by appointment of the Shattuck, Esq., of Boston, succeeds G late of Cambridge, and Rev. J. M. of James A. Dix, Esq., late of Boston Esq., chairman of the board, whose has expired within the year, has been reappointment.

The means at the disposal of the trust increase of the library, for the year ended were as follows :

Balance on hand October 1, 1865,	. . .
Balance of appropriation, in part, for 1865,	. . .
Appropriation in part for 1866,	. . .

Expenditures for the year—

Books, pamphlets, periodicals and maps,	. . .
Binding and stationery,	. . .
Library cards for catalogue,	. . .
Freight, express charges, &c., exclusive of foreign exchange and commissions,	. . .

Balance to new account,	. . .
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Of the annual appropriation for 1866 treasury of the Commonwealth the sum be received and expended. This sum, to on hand, amounting to a total of \$1,219.7 resource of the library for its enlargement for ordinary expenditures for the next or till an Act embracing the next annual library, is passed by the legislature.

A Resolve passed at the last session, M ized the appropriation of a sum not expended, under the direction of the trustees

g additional cases and shelves. Under this resolve, accommodations for the reception of books have been d, at a cost of \$344.54, leaving of the appropriation a of \$355.46 not expended.

tions were made during the year as follows :

	VOLUMES.
ase, . . . . .	618
stic exchanges, . . . . .	270
n exchanges, . . . . .	160
ions, . . . . .	45
rs of the government, . . . . .	140
Whole number, . . . . .	1,238

	PAMPHLETS.
ase, . . . . .	50
stic exchanges, . . . . .	75
n exchanges, . . . . .	120
ions, . . . . .	134
rs of the government, . . . . .	190
Whole number, . . . . .	569
of maps added, . . . . .	3

item of expense for binding during the year, which in the account, is unusually large, partly from in- prices of labor and material, and mainly from allowing d volumes and pamphlets to accumulate for a time, e expectation that prices would fall before it would be y to send the unbound works to the bindery.

tions have been received within the year from our sen- a Congress, Messrs. Sumner and Wilson; also from Jarvis, M. D., I. R. Butts, Esq., H. W. Lincoln, Esq., ime, Esq., E. D. Sargent, Esq., Ex-Governor Andrew, Marsh, U. S. Legation, Florence, W. S. Robinson, W. Esq., D. M. Balfour, Esq., and from several others.

State exchanges have been resumed with nearly all the ecently in rebellion against our national government. e close of the war, and almost wholly within the past ate publications have been received from the following

Virginia, North Carolina, Georgia, Tennessee, Ala- Mississippi, Louisiana and Texas. It will be perceived



that the States of South Carolina, Florida, and Alabama, not embraced in the foregoing list, should neglect to reciprocate the comity by exchanging State publications is the view of the generous regard manifested by Massachusetts towards South Carolina, in resending her own publications for her State library, at the request of our legislature at its last session, in a concurrent resolve, which sufficiently explains itself.

*Resolved*, For reasons set forth in a message from the governor, containing information from the governor of the loss, by fire, of its capitol library, that the Commonwealth, with the approval of the governor, be authorized and directed to purchase the several volumes of the decisions of the supreme judicial court of Massachusetts, and other official publications extant, as have heretofore been transmitted by authority of law to the State secretary, and that he cause the same to be sent to the governor of South Carolina, together with a copy of the

In accordance with this resolve, our documents were promptly transmitted, and in closing this Report no return had been received.

An earnest effort has been made by the Librarian to procure the series of laws and official documents of the insurgent States, while the great conflict was in progress, to illustrate the spirit and events of that period in our national history; and to render as complete a collection of the legislative publications of the insurgent States, from the origin of their respective governments to the present time. This effort, however, has not been successful. In one or two instances, the reason for not furnishing the desired publications has been the loss caused by Sherman's great march! In one instance, made after the war closed, that the Librarian of the laws of a disloyal State, was answered by a reply somewhat peculiar. The request was in these terms: "We are wanting the statutes of 1862 and '64, which we much desire to obtain for our series. Can you aid us to procure them?"

ly defray the expense, and reciprocate by a similar favor.  
&c."

letter containing this request was returned, with the  
ing endorsement: "The statutes of '62, '63, '64 have  
printed by Rosenkranz, Sherman, Gen. Thomas and  
on the backs of our rebels. Whether they ever will  
nd up in book form I doubt. ———."

duplicate series of United States Documents and State  
, which has been offered to some of the new States, and  
would be a highly valuable acquisition to a State library  
ent origin, is not yet sold, though it is expected that  
ations still in progress will be successful.

Respectfully submitted.

JOSEPH WHITE, *Librarian*.

TE LIBRARY, October 15, 1866.









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FOURTEENTH ANNUAL REPORT

OF THE

SECRETARY

OF THE

Massachusetts Board of Agriculture,

WITH

AN APPENDIX

CONTAINING AN ABSTRACT OF THE

FINANCES OF THE COUNTY SOCIETIES,

FOR

1866.

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BOSTON:

WRIGHT & POTTER, STATE PRINTERS,

NO. 4 SPRING LANE.

1867.



# STATE BOARD OF AGRICULTURE.

1867.

## MEMBERS EX OFFICIIS.

HIS EXCELLENCY ALEXANDER H. BULLOCK.  
HIS HONOR WILLIAM CLAFLIN.  
HON. OLIVER WARNER, *Secretary of the Commonwealth.*  
PAUL A. CHADBOURNE, *Pres. Mass. Agricultural College.*

## APPOINTED BY THE GOVERNOR AND COUNCIL.

	Term Expires.
AM S. CLARK, of Amherst, . . . . .	1868
AM W. BULL, of Concord, . . . . .	1869
AGASSIZ, of Cambridge, . . . . .	1870

## CHOSEN BY THE COUNTY SOCIETIES.

setts, . . . . .	LEVERETT SALTONSTALL, of Newton, .	1868
. . . . .	GEORGE B. LORING, of Salem, . . .	1869
. . . . .	JOHN B. MOORE, of Concord, . . . .	1870
North, . . . . .	ASA CLEMENT, of Dracut, . . . . .	1868
South, . . . . .	JOHN JOHNSON, Jr., of Framingham, .	1869
. . . . .	THOMAS W. WARD, of Shrewsbury, . .	1869
West, . . . . .	COURTLAND SANDERSON, of Phillipston,	1869
North, . . . . .	THOMAS BILLINGS, of Lunenburg, . .	1869
South, . . . . .	NEWTON S. HUBBARD, of Brimfield, .	1868
South-East, . . . . .	WILLIAM KNOWLTON, of Upton, . . .	1870
ce, Franklin and Hampden, . . . . .	H. S. PORTER, of Hatfield, . . . . .	1870
ce, . . . . .	LEVI STOCKBRIDGE, of North Hadley, .	1868
. . . . .	MONROE F. WATKINS, of Hinsdale, . .	1869
. . . . .	WILLIAM BIRNIE, of Springfield, . .	1870
East, . . . . .	H. S. WARD, of Monson, . . . . .	1870
. . . . .	JOHN M. SMITH, of Sunderland, . . .	1868
. . . . .	ALEXANDER HYDE, of Lee, . . . . .	1870
Valley, . . . . .	JOHN L. COLE, of Williamstown, . . .	1870
ic, . . . . .	T. D. THATCHER, of Lee, . . . . .	1870
. . . . .	CHARLES C. SEWALL, of Medfield, . .	1868
. . . . .	AVERY P. SLADE, of Somerset, . . . .	1869
entral, . . . . .	NATHAN DUFEE, of Fall River, . . . .	1870
. . . . .	CHARLES G. DAVIS, of Plymouth, . . .	1869
le, . . . . .	GEORGE A. KING, of Barnstable, . . .	1868
ct, . . . . .	JAMES THOMPSON, of Nantucket, . . .	1869
Vineyard, . . . . .	DANIEL A. CLEAVELAND, of Tisbury, .	1868

CHARLES L. FLINT, *Secretary.*





# FOURTEENTH ANNUAL REPORT

OF THE

## SECRETARY

OF THE

# BOARD OF AGRICULTURE.

---

*Senate and House of Representatives of the Commonwealth of Massachusetts.*

Another year has come and gone. Taking the State over, farming as well as to other industrial interests, it has been marked by a reasonable degree of prosperity. The price of labor has increased about sixty per cent. since the outbreak of the rebellion, while the cost of living has perhaps increased to a much larger extent; but the prices of farm products have been considerably higher than they were five years ago, and, probably, been enhanced in the same ratio. The season has been in the main propitious, and, with few exceptions, the labors of the husbandman have been rewarded by a generous harvest, though the effects of the terrible droughts of the two preceding years have been perceptible in the reduced crops of

On the whole, therefore, we may congratulate ourselves on our well-earned success in the practical labors of the farm and the garden. We have, moreover, been exempt from the calamities which have fallen heavily upon the agricultural interests of some other countries. We may reasonably entertain the hope that after a long series of well-meant and well-directed efforts, that contagious disease among cattle, known as pleuro-pneumonia, has been eradicated; while the sad experience of Great Britain in combating a somewhat analogous disease, the



rinderpest or cattle plague, which has carried off a hundred thousand of the finest animals, is well known to confirm the wisdom and soundness of our own State authorities in the course adopted for the prevention and spread of contagious diseases.

It is possible that in the early stages of the progress of the pleuro-pneumonia, the disease was understood than it is now, a somewhat larger number of animals were destroyed than was absolutely necessary for the object in view; but no one can be so foolish as to admit that it was better to err on the side of caution than the risk of incurring the losses which would have followed neglect; for we know now that the policy adopted by the English government was the only one necessary of a resort to the "stamping-out" system was compelled to come to it at last, and that the only effectual means of avoiding a far more extensive loss of losses in two years being about twenty millions of dollars.

By a reference to the following Report of the Commissioners on Contagious Diseases it will be seen that the aggregate cost to the State of the disease from our herds has been less than \$100,000 dollars, an amount which must appear trifling with the results attained, and the exertions and efficient efforts of the State Board of Agriculture and the little appreciated labors of the Cattle Commission. It gives a cost to each inhabitant of the State of less than seven years' operations, while to each person in England more than twenty-two cents, or about four cents.

*To the Honorable Senate and House of Representatives of Massachusetts.*

The Commissioners on Contagious Diseases, in submitting their Report, congratulate the Commonwealth upon the *probable* extinction of the disease having come to their knowledge since October, 1872, a few years since threatened to be of so serious a nature as *pleuro-pneumonia*.

The Commissioners have been called upon in the past year to examine diseased animals, and the contagious pleuro-pneumonia has been found

Concise history of the disease from its first appearance in Chenery's herd in Belmont to the present time, is deemed of sufficient importance to warrant its insertion in this Report. In the latter part of May, 1859, four cattle arrived from Holland and were taken to the farm of Mr. Chenery. Two of them sick, and in a few days died. Another soon after sickened and died. At the time of the death of the third, three calves were sold to go to North Brookfield, one of which was taken to the herd of a dealer for treatment, being sick. The dealer, being in cattle, as usual, soon spread the disease far and wide. In the following April an Act was passed "to provide for the eradication of the disease called pleuro-pneumonia among cattle," which gave the commissioners power to cause to be examined all cattle in herds where the disease was known or suspected to exist. The disease had, at the time of the passage of the Act, been extensively scattered, and in a short time the appropriation (\$10,000,) was absorbed. A larger number of cattle having been exposed than was at first estimated, an extra appropriation of the legislature was called to revise the law, and to provide the means of executing it. A new law was enacted, and received the sanction of the executive on the 12th of June. A new outbreak of the disease occurred during that year, in that locality, as far as is known, to the present time. The number of cattle killed was nine hundred and thirty-two. For more than a year nothing was heard of pleuro-pneumonia. At that time, those most directly interested were confident that the disease was extirpated. Early in the following winter, however, it was reported that it existed in Milton, Dorchester and Quincy. A board of commissioners was appointed, who, upon investigation, found the report to be true. A pair of cattle was purchased in Weymouth, which were taken to Quincy, and both died. No further history of them could be learned, as it was impossible to identify them; but the spread of the disease could in every instance be traced to contact with the animals in the herd in which they were at the time of their death, as shown in the history of that year. The number killed during the year was nine hundred and fifty-four.

For several months the commissioners felt confident that the disease was eradicated. In February, 1863, the commissioners were called to examine sick cattle in the north part of Waltham



—also in Lexington. It proved to be pleuro-pneumonia of origin was directly traced to a dealer, and by him, to eight different herds. The supply of cattle was soon exhausted, consequently the commission was not made.

The selectmen of several towns were called upon to enforce the law, which they (some of them at least) did not do. The disease still prevailed. Accordingly a State Commissioner was appointed in April, 1864.

It was found that several herds were still infected. The origin of the disease was in Lexington and its vicinity. Seventy-four cattle were killed.

In 1865 but three herds were found affected, from which four animals were killed.

The Legislature at its last session, in 1865, was allowing the sum of twenty thousand dollars to the Commissioners, require them to make inquiries into the curability of the disease.

No cases of the disease having come before the board last year, they were of course unable to complete their report. We can only refer, for information on this subject, to the report of last year, on the experiments made by the State Commissioners in the years of 1864 and 1865.

The uniform course of the present board has been to destroy all herds they have found affected with pleuro-pneumonia, other cattle as had in any way been exposed to the disease, to kill such as they were satisfied had the disease, and as to make them useless to the owner, and to destroy only such. The result of our action compares favorably with that of Great Britain in the management of pleuro-pneumonia diseases among cattle.

In Great Britain, during the past two years, the attention has been diverted from pleuro-pneumonia to rinderpest disease, rinderpest.

We here quote from Prof. McCall's introduction to the class of veterinary students, November, 1865, year, at Glasgow, Scotland, to show that pleuro-pneumonia is making its ravages among the cattle of the United States.

"For upwards of twenty years this country has been free from thousands of cattle from one contagious disease alone, and at the present moment it is busy among our

has lost twenty-two out of a herd of thirty-five; and a few ago I was consulted by a farmer who had lost twelve out of and now the disease has appeared among his young stock. The of deaths in these instances is appalling, and the loss, directly directly, cannot be estimated at less than £900 or £1,000.

The *plague* has drained the pockets of farmers and dairymen of pounds sterling; but thank Providence we are now free of the in this country. *Pleuro-pneumonia* has drained our pockets of pounds, and she is still in our midst, the great enemy of our \* \* \* \* \* Use the means I have indicated, and the which the *plague* has taught us to be of benefit in controlling various diseases, and if the contagious pleuro-pneumonia of cattle devastating our stock is not thereby extinguished—‘stamped out’ operations will be so curtailed, that the losses resulting to stock from the presence of the disease will sit light upon them.”

F. Simonds, in his introductory address, delivered at the Veterinary College in London, in October, says:—

From this time the disease called *rinderpest* spread in all directions, attacks gradually rising until they reached, in the week ending February 7th, 1866, the alarming number of 15,706. The first order in was dated July 14th, 1865, and from that period until now, has succeeded order, with more or less influence in checking the progress of the malady, and providing for the altered state of things brought out of its existence.

The passage of the Cattle Plague Act was, however, the real cause of the diminution of the cases which has since taken place, and which enables us to hope that ere long the disease will be entirely exterminated. For the first time in the history of the visitation, the attacks returned as under 100 for the week ending September 1st, 1899 the exact number reported by the inspectors.” \* \* \* \* \*

He quotes from the official returns the amount of loss which has been sustained, and herself, apart from other parts of Great Britain, has been needed.

The total attacks are returned as 198,406. The animals killed, (disseminated) amount to 77,508; those which died to 90,415; the recovered to 13,083; and the unaccounted for to 8,894. Besides which, no less than 1,000,000 have been slaughtered healthy, to prevent the spread of the disease. These figures are truly formidable; but they fail to show a true picture of the distress and ruin which has been brought on hundreds of thousands of industrious farmers and cattle-owners by this dreadful visitation.”

In speaking of Scotland, he says :—

“ It appears from the official returns that the attacks in Scotland amount to 46,861, being 4.841 per cent. of the entire stock of the country.

“ In Ireland but fifty cattle were exposed to the disease ; twenty-nine were attacked and either died or were killed, and twenty-one were slaughtered healthy.

“ Nothing can show more clearly the propriety of the ‘ stamping-out process ’ than this result. In it we have a parallel with what took place in France, where only 43 animals, healthy and diseased, were sacrificed to the pole-axe, the country being thereby freed from the plague.”

The Cattle Plague Act alluded to above, resembles the law passed by the legislature of Massachusetts at the extra session, in its general features ; and the course adopted by the authorities of Great Britain, in relation to rinderpest, is similar to that taken by the present board of Commissioners in Massachusetts in relation to *pleuro-pneumonia*.

Prof. Simonds further says that a focus of the disease still exists ; consequently the law passed by Congress, preventing the landing of any cattle from foreign seaports, should be continued in force.

We append to this Report a statement of the entire expenditure by the State of Massachusetts for the extirpation of the disease since its commencement in 1860, obtained from the treasurer's books, which is \$67,511.08. In addition to this amount, the several towns where the disease has been found have paid one-fifth of the cost of isolation, and of the appraised value of all the cattle killed, amounting to a sum which we estimate at \$10,000. (There is no printed report of the number of cattle killed by order of the selectmen of towns in 1863.)

The amount paid from the treasury on account of pleuro-pneumonia is as follows :—

In 1860,	.	.	.	\$28,733 21	In 1865,	.	.	.	\$5,622 84
1861,	.	.	.	14,118 43	1866,	.	.	.	386 35
1862,	.	.	.	4,525 86					
1863,	.	.	.	6,857 32					\$67,511 08
1864,	.	.	.	7,467 97					

E. F. THAYER,  
CHAS. P. PRESTON,  
F. D. LINCOLN,

• Commissioners.

DECEMBER 28, 1866.



## PUBLIC MEETING OF THE BOARD

AT SALEM.

usual country meeting of the State Board of Agriculture and discussions, was held at Lyceum Hall, Salem, on Tuesday, December 11, at 12 o'clock, the place having been changed from Concord by the Committee. The Board was called to order by Dr. LORING, of the Committee, when Hon. LEVI STOCKBRIDGE, of , was requested to preside, and accordingly took the chair. First business in order was a Lecture on

SECTION OF THE STATE BOARD OF AGRICULTURE WITH THE  
MASSACHUSETTS AGRICULTURAL COLLEGE.

BY DR. GEORGE B. LORING.

SALEM:—Agricultural education is yet in its infancy. Business of farming has, it is true, attracted the attention of the most enterprising and thoughtful in all ages; the statesmen and political economists have recognized its importance to the nation and to the state; science has explored its mysteries; to the wealthy and ruling classes it has furnished opportunities for displaying the finest tastes and adorning the earth; to the poor it has always brought the necessities of life; it has never yet failed; and it is as diverse in all its processes as are the soils, and climates, and markets, and social and civil organizations on the face of the globe. Every prosperous and cultivated people has an interest in agriculture. A State without agriculture is but half a State. A country without agriculture is no country at all. And whether we look to the semi-barbarism of Asia, or to the half explored regions of Africa and the islands of the southern seas, or to the want and poverty of Europe, or to the social equality of the United States, we find everywhere an appeal to the earth by the farmer, the cultivator, and a liberal response to the call. Agriculture is as old as man, and as universal. And yet we search in vain for any system of agricultural education among ancient nations, and we look in vain for any entirely successful system in modern times. The early books on agriculture are chiefly devoted to a history of the superstitions and popular delusions

and daily tasks of the olden times ; and the later books are an interesting record of the facts brought out by practical men, and of the efforts of science to classify those facts, and to draw from them positive rules of action. But we find no satisfactory system of education.

This is the more extraordinary, when we remember, how always and everywhere the mind of man has labored to throw light upon an occupation which is recognized as the fundamental art. Among the treatises on government and society which have been produced by the great intellects of every age, may be classed the works of those who have taught mankind how to divide, own and till their lands. And I have often thought that no library would be more interesting, curious and instructive, than one containing all the volumes written to enlighten the husbandman, from the days of Hesiod and Aristotle, down to Liebig's ingenious theories, and that modest effort entitled "Farming as it is."

In addition to these admirable endeavors of eloquent and careful authors to impart agricultural knowledge, many forms of associated instruction have been established from time to time. Early in the eighteenth century, about 1720, there were nearly thirty agricultural societies in France. Ere long attention was turned to the science of agriculture, which was publicly taught in the Swedish, Danish and German universities. And private fortunes were devoted to the endowment of special schools of agriculture. The patronage of government, too, has not been wanting. In Italy, in Sweden, in Denmark, in Switzerland, in France, in England, every branch of agriculture has been encouraged by the government ; and "even Spain, naturally inactive on these occasions, in spite of all the prejudices of a bigoted religion, invited Linnæus, with the offer of a large pension, to superintend a college, founded for the sake of making new inquiries into the history of nature and the art of agriculture." And Bonaparte, in his liberal policy toward agriculture, greatly increased the number of societies, established professorships, botanical gardens, &c., all of which concurred to elevate the study of agriculture in the estimation of those capable of bringing to its aid the principles of the abstract sciences. In fact, the only obstacle in the way of a rapid advancement in agricultural information during the last century in Europe, was

difference of the popular mind, and its devotion to tradition rather than to the results of careful investigation. "Book-keeping" had no charms for the common people, who looked with distrust and jealousy, while the educated exploreravored to elevate their calling, enlighten their minds, and relieve the heavy burdens of labor.

There is no doubt that the establishment of Boards of Agriculture is the most important step that has yet been taken in the work of agricultural improvement, and that the labor of Sir John Sinclair, as the founder of such organizations, entitles him to the respect and gratitude of all tillers of the soil. A century and a half before he began his work, Hartlibb, and more recently Lord Kames in the "Country Farmer," had pointed out the utility of a board of agriculture; but it was left to his untiring effort to call into life that valuable auxiliary to agricultural progress, and the board was created in 1793. To the establishment, more than to any other movement of that day, we are indebted for the present high and prosperous state of agriculture. It brought men together from all parts of the kingdom, made them acquainted with each others' views, and with the modes of culture prevailing in sections of which they had previously been ignorant. Take away from our present stock of knowledge of agriculture, or indeed of any other practical art, all that has been learned from the mere mental stimulus of associated effort, and the attrition of mind upon mind, and there would be a comparatively small amount left. It was through the encouragement of the board of agriculture chiefly that Sir Humphrey Davy was led to investigate the elements of soil, and to apply the science of chemistry to the improvement of agriculture; and here begins, properly, the real progress of the art; for without a knowledge of the simple substances of which agriculture could not be expected to take the rank of a science. The lectures of Davy before the board of agriculture, from 1802 to 1812, mark an important epoch in the history of modern agriculture. The substance of these lectures was embodied in his "Elements of Agriculture," published in 1813, translated into German in 1814, and into French in 1829. His work offered the very kind of information which Arthur Young declared to be the great want of the day. It opened to the reflecting farmer new and interesting views of the principles

of fertility and vegetation. It explained the physiology of plants; it analyzed the manures best adapted to their growth; and contained careful experiments upon specific fertilizers. It was indeed the introduction of scientific agriculture, opening the path which has since been trod so zealously, and erecting a monument to the wisdom which guided the board of agriculture in its selection of the great philosopher as its guide in agricultural education.

After reviewing the various attempts made by Marshall, Young, Bakewell, Anderson, the Duke of Bedford, and other noblemen, in advancing the art, Dr. Dickson says: "But neither the distinguished example of the sovereign, the endeavors of provincial societies, nor the exertions of private individuals, with whatever zeal and attention they may be directed, are probably sufficient to extend the knowledge of husbandry to that degree which is necessary for its complete and radical improvement. This could only be fully accomplished by the powerful influence and expensive exertions of a national establishment instituted for the purpose. Such an institution has at last been brought forward and established by the intelligent and persevering efforts of Sir John Sinclair, to the honor of the country, the age, and the individual who suggested it. The institution of a board of agriculture and internal improvements has already contributed materially to the extension and advancement of the knowledge of rural affairs. The state of the art in the greatest part of the kingdom has been ascertained, a great variety of new and interesting facts and practices have been brought to view, and improvements in the instrumental and other parts suggested. Among these the elucidation of the principles and practice of draining or removing the injurious wetness of land, arising from springs and other causes, as laid down and explained by Mr. Elkington, is of great importance and deserving of notice, not only as the basis or foundation of many improvements in the art, but as leading to the convenient and easy application of water for irrigation and other purposes."

"This board of agriculture, so well described by Dr. Dickson, and whose service has been so useful and important, is the foundation of that system which has been introduced into our own State, and whose business, as an organ of education, we have met to transact.



will be observed that every mode of improving agriculture and process of mental discipline, has had immediate reference to *practical business of the farm*. The most poetical and imaginative of agricultural writers have always kept the farm and the furrow in view. The most elaborate scientific investigations into the nature of the soil, the qualities of plants, the structure of animals,—chemistry, botany, physiology,—all have been subjected to that hardest of all tests, the details of agricultural life. However broad may have been the policy, however large the design of those who, by school, and society, and volume, have endeavored to increase the wealth and power of the State, by draining its lands, and dividing its fields, and protecting its forests, and encouraging its productions, and introducing the mechanical improvements of the age, they have been obliged to take their stand and apply their knowledge to their forces to an individual farm in order to test their results. And when a disciple of Liebig applies successfully the principles of his scientific master to a rood of land, Liebig's triumph is complete. When our own industrious and untiring Agassiz finds the laws of reproduction, which he has laid down after long study in the closet, practically applied by the intelligent and surprising farmer for the improvement of his flocks and herds, it is that the philosophy of Agassiz plants its foot upon the earth and benefits mankind. The knowledge which science has already unfolded belongs to the farmer, if he will but accept and exercise it. And the best teacher of agriculture is he who presents this knowledge written out upon the fields and gardens, which his own intelligent skill has brought up to usefulness and beauty. The best agricultural college is that which sends forth from its halls a band of successful cultivators, loving and believing in nature, because they are familiar with her laws. This may be called an industrial school, perhaps; and may be deemed unworthy of the high position which Massachusetts should take as a fountain of the highest knowledge. But such a college once be established here—a college in which the theory of the student will receive the stamp of its actual application—a college in which the experiment of the laboratory will lead to a final test—a college in which all the best culture of the schools will be so moulded and directed as to give us a cultivated population, devoted to the land, with an under-



standing of its mysteries, and devoted to social and civil life, with a proper and refined conception of their duties—give us a college like this, and Massachusetts will have accomplished an educational work, which will give her an influence wherever land is divided among freemen and cultivated by an intelligent yeomanry. Nearly half a century ago, one of the best observers, thinkers and writers on agricultural topics in this country, one of the earliest advocates of agricultural education, labored for an institution like this. I refer to Judge Buel, of Albany. In his correspondence I find the following: "I consider the plan suggested by the Albemarle Society as defective, inasmuch as it makes agriculture an *auxiliary* study. It ought to be the *principal*, and botany, chemistry, polite literature, &c., made subservient to this great study. The pupil should go to it with the express view of learning to be a farmer, and should be taught so much science, blended with experimental and practical knowledge, as should best promote this primary end. Of what vast importance would a well-conducted experimental farm connected with such an institution soon become to the agricultural interest, and to the Union at large."

I do not think that a practical agricultural college would be derogatory to the dignity of Massachusetts, or that it would belittle and cramp those engaged in the business of conducting it. He who will guide such an institution into successful operation need have no fear that his light will be "hid under a bushel;" his candle would flame from every housetop in the country, beneath whose shelter the farmer, and gardener, and lover of the land and animals, finds repose. To that altar all explorers might bring their gifts. The geologist with his strata and soils, the chemist with his laboratory and tests, the natural historian with the laws of the animal and vegetable kingdom written down in his scientific statute-book—all might find there a common hearthstone around which they might gather, and find a common object of interest—the subduing and utilizing the earth on which they have made their investigations. And if there are those who believe that the great minds of this and all time would find no home on such a spot, let them remember that for such a purpose as that to which this institution would be devoted, labored those wise and thoughtful statesmen and philanthropists, who, while they toiled for man's civil and social

on, remembered that man is but Antæus, drawing strength from the earth on which he treads ; let them remember that it has been found easier to organize churches and schools in our Republic, than it has been to construct a system of agriculture ; let them remember that the division of landed estates and the modes of farming adopted by any people are as indicative of their social condition as their churches and schools—perhaps more so ; and if they are citizens of Massachusetts, let them remember that around such an institution there is an intelligent, inquiring, investigating, free and equal population, ready to seize and apply all the practical information which the profoundest student can offer for their benefit, capable, moreover, of teaching, in some measure, those by whom they are to be taught.

I have said that every mode of improving agriculture by means of mental discipline has had immediate reference to the *real business of the farm*. This is especially the case in Massachusetts. The board of agriculture organized by Sir John Lubbock was not more perfect in its design, than that established in this State in 1852, and has since been in successful operation. The provision of the Acts defining the duties of this Board, the bestowing conditional bounties on agricultural societies, is evidence of a thorough appreciation of the wants of the community and a true understanding of the best means of acquiring and disseminating agricultural knowledge. I think we cannot be too grateful to those men who formed these Acts. Bearing in mind that they provide for the intimate connection between the Board and the government of the Commonwealth, through the governor, lieutenant-governor and secretary of the Commonwealth, we should also remember how they require the utmost vigilance in serving and collecting all facts valuable to the farmer. The Board is a representative body—a collection of delegates—one from each agricultural society ; and these societies are so organized as to include every farm and accommodate every farmer in the State. The Board is authorized, with its Secretary, to "investigate such subjects relating to agriculture in this State as they think proper ;" and as if to fix definitely the nature of its duties, it is also empowered to "*hold in trust, and exercise control over donations or bequests made to them for promoting agricultural education.*" It is required to make a detailed

report of its doings annually to the legislature; and the Secretary of the Board is authorized to "appoint one or more suitable agents to visit the towns in the State, under the direction of the Board, for the purpose of inquiring into the methods and wants of practical husbandry, ascertaining the adaptation of agricultural products to soil, climate and markets, encouraging the establishment of farmers' clubs, agricultural libraries and reading-rooms, and of disseminating useful information in agriculture by means of lectures and otherwise." From the above provisions of the Act establishing the Board, it is evident that its founders intended it as an educational system, obtaining information wherever it could be found, and sending it abroad throughout all the agricultural districts of the State. The power to hold property in trust for the benefit of agricultural education should not be forgotten. And the power granted to the Secretary to appoint "suitable agents," missionaries, as it were, to the societies and clubs and agricultural libraries, creates a system of investigation and teaching hardly equalled by the well-endowed organization of the board of education.

The encouragement which the State has given to agricultural societies by bounties, is coupled with a provision, which also shows how devoted to the work of "agricultural education" were the framers of this series of Acts, and how entirely they intended the board and the societies as institutions of agricultural learning. The section containing this provision I shall quote entire, for it seems to me that it has been somewhat overlooked by those who receive the liberal bounty of the State, and who should be willing to bestow an equivalent to that bounty. The section reads as follows:—

"SECTION 5. Every society shall annually, on or before the tenth day of December, make a full return of its doings, signed by its president and secretary, to the secretary of the board of agriculture, embracing a statement of the expenditure of all money, specifying the nature of the encouragement proposed by the society, the objects for which its premiums have been offered, and the persons to whom they have been awarded, and including all reports of committees and all statements of experiments and cultivation regarded by the president and secretary as worthy of publication; *and shall accompany the same with such general observations concerning the state of agriculture and manufactures in the State as it may deem important and useful.* The return, whether in

and or manuscript form, shall be marked in such manner that those in the several reports and statements deemed by such officers worthy of public notice, study and application, may be easily furnished."

It is difficult to conceive a more excellent arrangement than is contained in the portions of these Acts which I have quoted. An appeal is made to an educated and industrious community of farmers to become at once teachers and learners. Had our Young enjoyed the privileges which have been bestowed by the Board of Agriculture and its Secretary in this Commonwealth, the agriculture of England might have been advanced a century through his instrumentality alone. Every experiment, however small, every essay however humble, every investigator, however rude and primitive his processes, receive direct encouragement from the State, and find listeners and learners in every household, where may also be found the experimenters and masters of the art.

The history of the Board and of the societies shows that their work has thus far been well done. If there was ever any doubt of the disposition and ability of the farmers of Massachusetts to receive and impart information, that doubt should be removed by the series of volumes entitled the Agriculture of Massachusetts. Turn to the "Abstract of the Returns of the Agricultural Societies of Massachusetts" contained in those pages, and you will find a record of facts, figures, opinions, theories drawn upon almost every matter of interest to the farmer, and all drawn from the soil itself by the well-educated cultivator, from the stalls and folds and pens of the successful managers of domestic animals used upon our farms. Page after page presents to your consideration the refined sentiments, and general speculations, and encouraging thoughts, not only of the educated men who are called to address our societies at their annual exhibitions, but of those also, who, as practical farmers, follow their calling and add their daily contribution to the productions of the State. The literary work performed by the members of the Board, a voluntary and unremunerated act, but parallel in any other public service known to the State, contained in this Annual Report deserves more than a passing

mention here, especially, lest, like so many unobtrusive charities, it be overlooked and forgotten.

In the year 1859 I find that the members of the Board furnished 182 pages, including their reports upon the societies; and the subjects treated were Manures, Pasture Lands, Cattle, Diseases of Vegetation, Fruit Culture, Root Crops, Market Days, and Agricultural Education.

In the year 1860 the members of the Board furnished 217 pages, and the subjects treated of were Sheep Husbandry, Diseases of Vegetation, Root Crops, Horses and Flowage.

In the year 1861 the members of the Board furnished 179 pages, and the subjects treated of were Diseases of Vegetation, Cattle Husbandry, Protection of Sheep and Lambs, Wastes of the Farm, and Wheat Culture.

In the year 1862 the members of the Board furnished 187 pages, and the subjects treated of were The Application of Manures, The Cultivation of Tobacco, The Arrangement of a Catalogue of Fruits adapted to Massachusetts, and Grape Culture.

In the year 1863 the members of the Board furnished 95 pages, including their discussions; and the subjects treated of were Agricultural Education, Grape Culture, The Growing of Meat, Preparation of Land for Crops, and The Cranberry.

In the year 1864 the members of the Board furnished 181 pages, and the subjects treated of were The Management of Farms, Agricultural Education, The Corn Crop, Grape Culture, Pasture-lands, Cattle Husbandry, Sheep Husbandry, Root Crops and Garden Vegetables, Planting Pines and other Trees, Farm Buildings, Fruit Cultivation, and Grapes.

In the year 1865 the members of the Board furnished 289 pages, and the subjects treated of were The Cattle of Massachusetts, Agriculture as an Employment, The Diseases of Cattle, Sheep Husbandry, Plants, Grape Culture, Manures, Drainage, Fruit Trees, Forest Trees, The Dairy, Farm Accounts, Seeds, and Surveys of several Counties in the State.

The members who contributed these pages to the State report specially, also, in some instances, appear as writers for the local societies. In the part which I have performed in this service myself, I have endeavored to discharge faithfully my duty as a member of the Board, working for the general interests of agri-



re. Of my associates in the labor which I have just  
ed to you, it is only necessary to give the names of Fisher,  
n, Lathrop, Bartlett, Wilder, Atwater, Sewall, Davis, Grin-  
Clark, Stockbridge, Bull, Stedman, Clement, Phinney,  
iz, Chadbourne, Tidd, Perkins, Huntington, Thompson,  
eland, Moore, Fay and Saltonstall as the authors of the  
which I have enumerated, to give assurance that the Board  
riculture has truly represented the farming interests of the  
and that its deliberations are entitled to respectful consid-  
n. Add to what has already been enumerated as coming  
delegates, societies, orators and others, the reports of the  
tary and his assistants, and you have an annual volume  
ble and interesting, and enjoying a high reputation among  
udents of agriculture.

s this Board, designed, as I have shown it to have been, for  
tional purposes, organized as it is by the connection of  
ltural societies with the highest officers in the Com-  
wealth, laboring as it has done continually in the cause to  
it is devoted,—it is this Board which, by the Act of May  
1866, is constituted a board of overseers of the Massa-  
ts Agricultural College.

what I have already said, I have endeavored to show the  
ion which intellectual efforts in every form have taken for  
enefit of practical agriculture. I have traced the way from  
idual labors in the form of books from masterly hands up  
at associated duty which has been so well discharged by  
s of agriculture in every State where they have been  
led. And I have pointed out how especially our own Board  
originally organized for the purposes of agricultural educa-  
n the hands of practical teachers.

onsider that the CONNECTION OF THIS BOARD WITH THE AGRI-  
URAL COLLEGE is a matter of the greatest importance to both  
utions.

the Board, which I think has richly earned this distinction  
ne services to which I have alluded, the connection is  
ubtly important. That the Board of Agriculture should  
been made the trustees of the college by the Act of incor-  
ion, there can now be but little doubt; and having been  
ved of this opportunity for honor and usefulness, its eleva-  
o the position of overseers is but an act of justice. The

labor which it has hitherto performed, in spite of public indifference, and without that authority which an organized institution of learning always enjoys, may be largely increased in value by being connected with the recognized head of agricultural education in the State. The investigations which have been made by the Board, the essays which the members have published, the experiments which they have recorded, would have been laid before the public with much more effect, had they undergone the scrutiny of a scientific body laboring in the same cause. It is not difficult to see that the annual report of the Board may be raised above what it already is, if it shall be made the receptacle of the careful investigations carried on at an experimental farm connected with the college. Add to what we now have in the volume, the results of analysis and comparison made at the college under the eye of science, and what a flood of light might be poured upon the dark places through which we now grope. You will all agree with me, I am confident, that the character of our agricultural literature may be improved, and that any effort which will raise it to the standard of foreign writing on the same subjects should be speedily and energetically made. Is it too much to hope that our annual report may be made a model volume, by the stimulus and illumination which may come to it from an agricultural college?

These meetings for discussion, too, how might they be guided and improved by the instruction of those whose business it is to keep their minds prepared for the work of education. The success of a debate almost always depends upon the manner in which it is opened. Make it the duty of the professors and young men of the college to take part in these public assemblies, and you will find at once that their value and importance are largely increased—to ourselves as well as to the community.

And when we would apply that section of the Act incorporating the Board, which provides that the Secretary may appoint an agent “to visit the towns in the State, under the direction of the Board, for the purpose of inquiring into the methods and wants of practical husbandry,” in what better way can this be done than by submitting section after section of this State, or county after county, to the careful exploration of the college, until its resources in soils, capacity for crops, in forests, in peat and minerals, in all productiveness, be thoroughly understood,

their value thoroughly appreciated? "County surveys" in this way might be invaluable, and the Board might rank in respect with any similar bureau in the Old World or the New. Massachusetts take the lead in collecting and arranging statistics of agriculture and natural resources—in which the department of agriculture under the general government has so lamentably failed. The information which the Board has already collected is of great value. How much more valuable may it be made by being brought to the college, and diffused through lecture and publication.

It seems to me, moreover, that by the connection proposed, the Board of Agriculture may do much towards the support of the college. Representing, as the members of the Board do, the farm in the State, they enjoy an especial opportunity to bring the college under the notice of all farmers, and to enlist the sympathy of others who have acquired the power to own land and the taste to adorn and improve it, and who only ask sufficient knowledge of its management to be able to develop its capacity and beauty. Let us bind, then, the farm, the agricultural society, the board and the college, into one grand system of agricultural education, in which each may aid the other in performing well their part.

The liberality of the Commonwealth towards the Board of Agriculture and the societies is well known; and, while it is due to our deepest gratitude, it places us under the most solemn obligations to see that the bounty bestowed is turned to the best account. The annual expenditure of nearly forty thousand dollars upon societies and the Board, for the improvement and development of agriculture, and for the diffusion of agricultural knowledge, ought to be so directed as to produce the largest possible benefit. Elevate, for this purpose, the Secretary of the Board to the position of teacher, or lecturer, or professor in the college; plant our excellent agricultural museum in the college; connect the scientific investigations now made by the Secretary of the Board with the college; call the board together annually, or oftener, within the walls of the college; provide that all State agricultural publications shall be sent from the college; and the money now expended upon the board and its officers alone, would be devoted to the double

purpose of sustaining and elevating the Board, and also of giving aid and encouragement to the college.

It should also be the duty and privilege of the Board to examine the students in the college, either by sub-committees or as a body, at the close of each term of the course, or at such times as the faculty might designate. Examinations of this description are common in other colleges; and nothing could be more appropriate than the plan I have proposed, when we consider the wide-spread interest in and knowledge of the college, which it would naturally create. It forms a part of that system of co-operation and support which I think is due from the agricultural community to an institution founded for their especial benefit. To encourage and strengthen the hands of the president and faculty, in their endeavors to establish a system of agricultural education, is a service to which the Board of Agriculture may well devote itself—a service which it can perform without interfering in any way with that part of the government of the college which belongs to the trustees; a service, which, if properly discharged, may stamp the college as an institution devoted to teaching the science and art of agriculture, and may develop a successful and useful mode of instructing our farmers, and of giving greater certainty to their business.

Having considered the advantages which the Board may derive from the proposed connection with the college, I now come to the benefits which would accrue to the college itself from such a connection.

I stated, in the commencement of my remarks, that agricultural education is yet in its infancy. And it is so. But while the application of science to the art of tilling the earth has attracted the attention of the best educators of the age, it has been determined, as a general rule, that devotion to matters of practical importance lies at the foundation of the best system of instruction in this branch of education. In the school founded by Fellenberg, at Hofwyl, in Switzerland, were combined: 1, a pattern farm; 2, an experimental farm; 3, a manufactory of agricultural implements; 4, a school of industry for the poor; 5, a boarding school; 6, an institute of agriculture, theoretical and practical. And so successful was this institution, that at one time its pupils were “employed at high salaries, in various parts of Europe, to superintend and direct the labors of agri-



re. Dr. Bright, in his recent travels in Hungary, saw one whom he had the superintendence of an extensive estate whom he visited, the products and revenues of which had been multiplied in a short time by his judicious management. The traveller enumerates eight schools, on the Hofwyl plan, which had been established by the government, or by individuals, in the Austrian States. In these the course of study generally lasts three years, in which time the pupils are instructed in natural philosophy, chemistry, natural history and veterinary medicine; while upon large experimental farms they are taught agriculture, the management of fruits and forest trees, and the management of cattle, sheep, swine and bees."

The Emperor Napoleon established a school at Alfort, where the branches of science connected with agriculture are taught. Chemistry, botany, the anatomy of cattle, farriery, the mechanics, and as much of geology as is known, and the work and domestic economy in every branch, and down to the smallest article, are there exhibited and explained." The purpose of this school was to improve in many respects the agriculture of France, by introducing new and better modes of cultivation, machinery of various kinds, and by sending into the provinces scientific men, so educated that their science was made practically useful.

At the school established by the Emperor of Prussia at Marienburg, the value of the farm was increased, in twelve years, from 2,000 to 12,000 rix dollars. The branches taught in this school were mathematics, chemistry, geology, botany, veterinary medicine, entomology, &c. An experimental farm and a botanical garden were also connected with this establishment, as well as a laboratory and manufactory of agricultural implements."

I have enumerated these schools because I know that their results are such as must recommend them to the judgment of every successful and enlightened farmer. The well cultivated farms around a college building, and the success of those cultivators who have been taught on those acres and within the walls of the college are the testimony which will weigh upon the minds of an agricultural community.

In a community like ours there exists a necessity, it is true, for instruction in all those branches which constitute what we call good education, as well as those which are immediately



applicable to the business in hand. Algebra, geometry, trigonometry, mechanics and optics, engineering, astronomy, climatology, all belong to the course of study which should prepare every mind for the work of life. Of languages, French and German open rich stores to the agricultural reader. Of sciences, geology, chemistry, botany, anatomy, zoölogy, belong especially to the well-educated farmer—each one tending to throw light upon his profession. Beyond this is opened the great range of studies more particularly applicable; and we desire, by books and lectures, to secure all the knowledge possible upon landscape gardening, rural architecture, domestic animals, their increase, improvement, use, feeding, health and disease,—animal and vegetable physiology, the cultivation of plants, pomology, practical agriculture, &c. And still further on, a familiar knowledge of the processes of the farm should surmount the whole, and make the system complete. The association of the scholar with the fields, and flocks, and herds of the farm, until he has learned their mysteries—so far as man may learn them—is all important. In no profession, unless it be that of medicine, are constant observation, quick perception, a cultivated eye, ready resource, more important than in agriculture. The success of its practice depends mainly on an ability to adapt any system of farming to surrounding circumstances, and to decide quickly and readily to what animals and to what cultivation the land is adapted. I will not say, here, for the sake of argument alone, that the good farmer must love his profession; but I will say, that between the good farmer and his land and animals there must be a sort of secret understanding, which can only be secured by the most familiar acquaintance. And with us, the domestic economy of the farm, the farmer's home, his modes of thought, his modes of labor, how he can best live on the land, and be a good husbandman, in-doors and out, and a good citizen, all form an important part of that education which is to elevate and improve our agricultural population. I can hardly express my high estimate of the opportunity for usefulness and distinction which falls to the lot of him who would organize a successful agricultural school, as its president, its guide, its vitalizing force. But next to him in the work stands the man who shall demonstrate to that school the interesting results of an intelligent and scientific appeal to the land, and shall unfold to them

comfort and happiness of a well-organized farmer's home. Of all this can be encouraged by the Board of Agriculture. If them to the college may be imparted the tone and flavor appropriately belong to such an institution. Of the practical topics which I have enumerated, they should be the special subjects; upon all the work to which I have alluded they should be the benefit of their constant interest and observation. They could not do a better work than to recommend, from year to year, the subjects of a special course of lectures, to be furnished from their own members, as far as possible, and so far as consistent with the regular course of instruction.

They should show and respect, and would carefully recognize the functions of the trustees of the agricultural college, as conferred upon them by the Act of incorporation. But, in order to perfect the institution, I would have the Board of Agriculture stand beside it with fostering care, giving it all encouragement, and lending to its development and guidance all those powers which have enabled them, year after year, to present to the Commonwealth a valuable volume, and have won for them an honorable reputation, as devoted students of the profession which they represent in the Commonwealth. If encouraged, or even aided, they may aid in making the college not only a source of light, but a protector of the farmer against the innumerable temptations which are thrown in his way, to fertilize his land and ameliorate his toil; and which too often end in disappointment and loss. Upon them has thus far fallen the burden of discussing the value of fertilizers, the preparation and application of manure, the value of different crops, the merits of various breeds of domestic animals, the comparative value of various articles of food, the economy of pasture lands, the modes of drainage. Let them bring these questions to the attention of the agricultural college, and the practical utility of both institutions will be recognized, I am sure, by those who are pleased to think lightly of all efforts in the way of agricultural education.

I have dwelt long upon the matter before us, longer, perhaps, than is accordant with your patience, but not longer than its importance deserves. I remember with pride the achievements of Massachusetts in literature, science, and the arts, her schools, and her industries. I remember the oft-repeated efforts of

her rich men and her wise men to raise her agriculture up to the standard of all her great enterprise. And it now remains for her to erect an industrial school, in which the maxims of her early patrons of this art shall be renewed, reformed, improved, by the influences which her best science can bring about them,—a school worthy of herself, an agricultural college where thought and labor can meet for mutual benefit and encouragement.

After the lecture the Board took a recess till 2 o'clock, P. M.

#### AFTERNOON SESSION.

The afternoon session commenced at 2 o'clock, Mr. STOCKBRIDGE occupying the chair.

#### AGRICULTURAL EDUCATION.

This subject having been assigned for consideration, the Chair called upon Mr. P. STEDMAN, of Chicopee, to open the discussion.

Mr. STEDMAN. *Mr. Chairman*,—I had no thought of entering into the discussion of this subject; for, although I happen to be a member of the board of trustees of the Agricultural College, I am well known to most of you as “an eminently practical man,” as our friend Colonel Wilder has expressed it, and practical agriculture is my business rather than the educational part of it. I have my views in regard to the Agricultural College, and they have differed somewhat from those of a majority of the board of trustees; that is, I have been disposed to carry out, in reference to it, the *practical* ideas which Colonel Wilder attributes to me. I think that the practical part of agriculture should be prominent in the teaching there; that while we are not to neglect the scientific branches, but carry them to their highest possible extent; yet, at the same time, one important object should be to teach practical agriculture, and teach it in such a way as will enable an individual to get a living by it; teach our young men how they may support themselves by farming, not how they may expend money in making a fine place, when perhaps many of them have no money to spend, and will not have until they have earned it. It seems to me that we want to give them some such practical education as will enable them to make a livelihood, and at the same time increase the

act of our farms, the comforts and mental qualifications of farmer, and raise the standard of agriculture in every act.

the address given this morning, we had indicated some of means of agricultural education. One, which was not mentioned, but which I think is prominent, and has been the means accomplishing great good in our Commonwealth, is the formation of agricultural clubs. I think that the discussions which have been carried on in those clubs have been productive of good to the individuals who have taken part in them, and the community at large. I am acquainted with several of clubs whose doings have been extensively reported, and interest has been created in different localities from their discussions. But that is not all. I am confident that great benefits have accrued to the individuals connected with them. Our farmers, as a class, have become a more social community, through the influence of these clubs. They have been using the most prominent means which have been employed for promoting the farming interests of this Commonwealth. We, therefore, look for great good from the pursuit of agriculture in the future, and I trust when the Agricultural College goes into operation, we shall have connected with it, yearly at least, a series of meetings, corresponding to the one we are now holding, corresponding, perhaps, more nearly to the one which was held in New Haven, in connection with Yale College, some ten or five years since, which many of us recollect, and which, I mistake not, was continued two weeks. There was a tuition and I know some young farmers who went from Massachusetts and made it their business to attend those meetings. I know the tuition was twenty dollars. They paid that, and hired board in New Haven, and spent two weeks there; and, so far as I know, they were abundantly satisfied with the way in which they had spent their time and money. I know some of those who were older who spent our time there, were very much pleased with the instruction which we received, and with the interest which was created; and I hope that twelve months from this time we shall be able to have a meeting at Amherst something like that at New Haven.

As I said at the outset, this is a subject on which I did not think of saying one word, and I hope some other gentleman will occupy the time.

Prof. P. A. CHADBOURNE, of Williamstown. I have been requested to make some remarks at an early period of this discussion, and I do so with the understanding that I shall be very likely to make more before the discussion closes.

I need not say to you that I was very much interested in the address which we had this morning. I think it contained very many things of great importance to us as a Board, having a bearing upon agricultural education. I was glad to hear the lecturer say that agricultural education is in its infancy. If that is so, some mistakes can be pardoned. Everybody who brings up children knows that he has to pardon something to young children ; they will make mistakes ; and we must expect to make some mistakes in agriculture, if it is in its infancy, and I believe it is.

The first point which I wish to make here to-day is one that perhaps will not meet with the assent of all present ; and that is, that America is the most difficult place in the world, at the present time, to bring agricultural education to a high point. I know the arguments that will be urged against this. It will be said that the general intelligence of the people makes it possible to bring agricultural education here to the highest point. Now, I shall bring forward some arguments on the opposite side. I am speaking of *America*, mind you, not Massachusetts. By-and-by I shall make an exception in favor of Massachusetts, and perhaps of New England. I say that America is the most difficult place in the world to raise agricultural education to a high point, for the reason that every man can obtain just as much land as he wishes to cultivate, and just as much of the very best land in the world as he wishes to cultivate. And so it has come to pass, that, taking our country as a whole, what people have done is to take out of the soil, in successive years, all they could get, and then move to another place, and take up new and virgin soil. Every one who has travelled through the South and seen the cotton and tobacco lands, knows that this is true in regard to that section of the country. They have taken up one plantation and exhausted it, and then removed to another. And what are our Western people doing ? They are taking crop after

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from the land and sending it away ; and every crop they away takes so much from the richness of the soil. The is very rich, and it will take a great many years to exhaust ut the process is going on. All that the people have hitherto called upon to do has been to invent means to put in the and take off the crops. Invent the best means possible for ing the soil, and you were supposed to have done the best ; you could for America. That is the truth of this matter. d an offer this fall to take the presidency of a Wisconsin col-

It had an agricultural department, and I said, "The difficult department you have got is the agricultural rtment." They said, "This is an agricultural community ; the great interest of the State." "But," I answered, "you so much land, and the land is so productive, that you can- make it worth while for the people to spend their time in ying how they can make it more productive. You cannot g agricultural education up to the highest point here." n we come to Massachusetts, we find a different state of rs. We cannot go on robbing our soil year after year. If ake our draft upon the soil without making any deposits, will be protested ; and hence we are called upon to keep ank account all right. Now, if there is any place in Amer- where agricultural education can be brought to the highest t, it is in Massachusetts, for three reasons. In the first e, its soil is limited ; in the second place, it is of such a e that it is impossible to take off crop after crop with- estoring its fertility ; and, thirdly, the people are generally igent. You have here the three elements which in Massa- etts will tend to bring agricultural education to a higher t than it would be possible to carry it further west or south, e the land is so unlimited, and where they can take crop crop from it year after year. This I consider the hopeful re in regard to agricultural education in Massachusetts ; we are, from the very nature of the case, compelled to give at thought and that study and that practical turn which are alled for at the West nor at the South.

Another thing I want to call your attention to, and that is, a arison of our agricultural institutions with those of Europe. two classes that attend those schools in Europe are entirely rent from the class that will attend the Agricultural College

of Massachusetts. And what are they? The first class—the highest class, as I understand it—is composed of those who are being trained there to become stewards of great estates. There are many great estates in Europe, and the owners must have men to take charge of them. These men must be trained, and an Agricultural College is the place to train them. Then there is another class, who understand that their business is to dig and delve, and they have a place assigned them in those institutions; but their place is a lower one. We have neither of these classes here. We have no such great estates, requiring stewards to manage them, and we have no set of men who understand that their place is to dig and delve, while somebody else owns the soil; but every man is, or expects to become, an owner of the soil, and carry on his farm for himself. Now, any one can see that we have an entirely different thing to do. We are to educate men who are the owners of the soil, not men who carry on estates as stewards; and therefore the success or failure of those schools cannot be taken as a standard for us.

A few more words in regard to the position of Massachusetts. All other New England States, excepting Maine, have given their agricultural money to colleges. Vermont, Rhode Island, Connecticut and New Hampshire have all given their agricultural money to institutions already established, and they are to have a sort of agricultural department; that is, they will have some lectures on agriculture. Massachusetts has said that shall not be done in this State. She proposes to start an Agricultural College; and when you consider the position of Massachusetts, and her wealth, and the means she has of building up a college, it will undoubtedly be an Agricultural College worthy of New England.

It is most difficult to decide what is to be done in this college. However, the ground has been mapped out, and has been mapped out in such a way that I myself feel satisfied with it; and I accepted the presidency of this institution, believing that the ground had been well mapped out, and hoping that no essential change would be made until the experiment should be fairly tried to see if it is to be a success or not. And since I am a member of the Board, and we are discussing the relation of the Board to the college, I have to say, if I am not interfered with, and if the character of the college is not changed, (and if it is I shall feel my relation entirely different from what I now do,)

feel it my duty to see the experiment fairly tried, if I receive a cent for my services—if I have to go abroad and, as many of our teachers do, in order to make a living, I am teaching. For the first class that comes in I expect a great deal of the teaching myself; and, if necessary, and I do not get any one else to help me, I will do it all, (applause;) if the State cannot pay me for it, I can live without it.

What do we propose to do there? In the first place, gentlemen, I hold that it is impossible for us to fix upon a low standard of education in that institution. In some of our institutions, I am sorry to say, they are so anxious to gain students they go on lowering the standard, dipping deeper and deeper, taking a net with finer and finer meshes, and finally they catch nothing but minnows, and very few of them; while those institutions that insist upon a high standard of education go on increasing, in spite of all adverse circumstances. I said to the trustees of that Western institution, when they called upon me to plan of education: "Just look at the institutions of our country. During the last five years, while war has been raging, many of our small institutions, with low requirements, have almost blotted out; but Harvard and Yale, where they maintain a high standard and work up to it, have not grown smaller, but larger all the time; and this shows that the way to meet the requirements of the common people is to have a high standard and work up to it." If you want an illustration of this, I will give you the case of Brown University; and I feel justified in doing so because I have had, from its president and professors, within three months, some account of it. You know that some years ago they undertook to change their standard; it was called "the short road, via Providence, to a college education." What was the result? It was thought that, under the leadership of an eminent man, Dr. Wayland, they would have so many students that all other colleges would be swept away—annihilated. The result was, that the people emphatically repudiated the whole thing, and they have had to give it up. I want to say this emphatic. I want it understood that there is nothing but the highest standard of education that will ever draw students from the sons of farmers. If you do not have that high standard, they will send them to other colleges to give them a college education, and then let them get their agricultural educa-

tion the best way they can. I am sure of that. This has been the uniform result—that just as institutions have lowered the standard of education, they have lost prestige and failed of their object.

As the lecturer said this morning, agricultural education is in its infancy. It is said that there are not professors enough in the United States to carry on an Agricultural College as it ought to be. I believe that fully; but is that any reason why we should not get together all we can, and have young men and old men preparing themselves, and doing all they can to build up men who shall be fit to carry on an Agricultural College? We must bring the brands together to kindle a fire. If we have not the means to get the best men for a whole year, let them come for a month, a week, or even for a single day. I would give more for a whole man to stand up and lecture to one of my classes for a single hour than for some other teachers for a whole term. He will give the students more power, more insight into the methods of study, and what men can and ought to do, than the man who will plod on the whole year without any life-power, any perception of the human mind, any perception of this world, and any perception of the relation of one to the other. If I am indebted to any man to-day for any mental power, it is to some men who, in a single lecture or in a few minutes' talk, have given me a new insight, and left me to work my own way out. We need and must have those men; if not for a year, then for a day or an hour. Let the young men see them and hear them talk; let them take their measure and have them for a standard.

There are three things which we propose to have, as I understand, at the Agricultural College. The first is an educational course. They have made a four years' course of it. It is not proposed that young men shall go to another institution for their education, and then come there and spend a few months to get a knowledge of agriculture. A man may do it; but the idea is to establish an educational system, and one that shall have special reference to agriculture—the whole thing. Well, gentlemen, what is agriculture? As I understand agriculture, it is simply the practical application of chemistry and botany and zoölogy. It is natural history and chemistry applied; and the deeper you can put a man into these things, and the broader principles you can lay down in reference to them, the better

culturist you will make. But then every teacher has thrown a great deal of time in trying to get general principles into the minds of men that have not the first rudiments of education. I am glad to see Professor Agassiz before me, for I know he will bear me out in this statement. You can make mistakes of them; you can get them so that they will observe the habits of a fish; but then they run off into some absurdity or Darwinism, and there is no way of getting them back; you cannot correct them and you cannot benefit them. You want to educate them so that they will know what you are talking about. How can you talk to men who cannot understand you because they have not the slightest conception of the principles underlying what you say. The first thing you want to do is to secure this education.

The second thing, I understand, is this. Certain men get no education in other places, but they want to give a certain amount of time to agriculture. I would have the course so arranged that any man can come and enter that college for one month, three months, six months, or a year, and select any subjects for the time-being that he is fitted to pursue, and attend the lectures of the course, so that no man, simply because he is not fitted to enter college, shall be debarred from the advantages of the institution. That has nothing to do with the regular college course; that must be carried along as the basis, the sub-sistence, which shall give dignity and permanency to the institution.

Another point is just the thing to which Mr. Stedman has alluded: that every year there shall be delivered in that college a certain number of lectures on agricultural topics; and I trust that the subjects to be discussed will be suggested by this Board, the organized capacity, and the lecturers designated,—four from one man, eight from another, and ten from another. Some of the most prominent agriculturists of the State have promised that they will come and deliver these lectures; or, if they cannot come themselves, they will hire men to take their places. I propose a six weeks' course of not less than three lectures a day, on such subjects as physical geography, agricultural chemistry, zoölogy, botany, structural anatomy, reproduction, architecture, and so on; making a full, complete course, one that I should be glad to hear, myself, repeated year after



year. And that course of lectures, gentlemen of the Board of Agriculture, if I remain connected with the institution, I wish you to take under your patronage, and suggest from year to year the lectures that shall be delivered ; and if you can select from your own Board members who can deliver a large portion of these lectures, I shall be very glad of it. We shall thus bring every year before the young men of that college the very best scientific talent we can possibly find, and the very best practical agriculturists that can be found in Massachusetts ; and the oftener they come, the more they lecture, the better I shall like it.

Professor AGASSIZ. I should be glad to make a few remarks upon this subject. Professor Chadbourne has touched upon some of the most vital points in connection with the establishment of the Agricultural College which can be brought to your notice. He has touched upon the condition of our schools generally, and upon the condition of our colleges ; and you cannot make an Agricultural College prosperous,—and in Massachusetts no more than elsewhere,—without taking into consideration, in connection with it, the condition of other schools. I was delighted to hear from the president of that institution those liberal and far-sighted views which, under his guidance, will become the life of the institution ; but however well-devised the plan of instruction may be, however comprehensive you may make such an institution, you cannot begin with the a, b, c. The pupils must come with some preparation. Therefore, you have to found on your common schools to start with ; and then you will carry on your education so complete and so perfect and so advanced in the application of science, that the best scholars of the University, after they have completed their collegiate course, will want to go to that college, too. So you cannot organize your Agricultural College, without taking into consideration, not only the elementary schools, not only the high schools, but the colleges, also. An Agricultural College, in its perfect organization, must occupy a place, a sound, healthy and active place, in the general system of education in Massachusetts, which shall cover all that Massachusetts men want ; and therefore, upon that connection, I should like to say a few words.

We at Cambridge, in our college, are as perplexed to reorganize the University as you are to organize an Agricultural College

all meet the wants of the time. Our college has done its duty ; it has stood at the head of education in the United

From it have gone some of the most learned men, some of the most prominent men in public life ; and yet I say that that institution, with all its wide scheme of instruction, has done its duty and must be reorganized in order that it may be up to the requirements of the time ; and we feel this so strongly, that at the present moment there is a committee of the professors who, in consultation with the president of Harvard, are considering in daily meetings,—not in weekly or monthly, but in *daily* meetings,—what shall be done to prevent Harvard from falling behind. Now, gentlemen, let me say to you, that the pride of America,—our public schools,—needs the same overhauling. They require nursing. They were framed after a vast deal of preparation and had been given to their details, and after reports by Horace Bushnell who had studied the best schools and the best system of education in Europe. His information was adapted to the wants of the community at that time, and out of that, and what we have already gained, and what was already in practical execution, we have grown that admirable system of popular instruction, which we have given America that general education which every man needs. But I say that that system needs nursing again, and must be overhauled anew. For what reason ? Because the common schools must send pupils to the Agricultural College that they be fitted to take hold where that college begins—for beginning must have. It cannot begin with the a, b, c ; or, if it begins with the a, b, c, in botany, in zoölogy, in mineralogy, in geology, in physical geography, it cannot go so high as to the enlightened views of its president. If it is expected to do so, the common schools must send there scholars who have mastered the a, b, c, of what shall be taught there ; otherwise the college will sink to that low position so well described by Professor Chadbourne, to which some colleges have allowed themselves to fall, merely for the sake of gaining a temporary popularity. We do not want any of that sort of humbug. We want something substantial ; and that substantial thing which we want is education, as general as before, as liberal as before, but a little better adapted to the wants of the age than it is now ; as it was adapted to the wants of the age as it was in the beginning, a little better adapted than it is at this moment, because, at

this moment, everybody who goes to housekeeping must know something of chemistry, something of physics, something of mechanics, because we have, in the means of carrying on the every-day business of life, nay, we have in the kitchen ranges, the heating apparatus and the cooking apparatus, that which requires that everybody should understand some of the principles of chemistry and physics. For that the school should provide; but for that the school does not provide, and the instruction necessary for these things is not to be had in our colleges. We have, in one word, too much book learning, and too little teaching of things. (Applause.) Let me not be misunderstood. I am a book man, and I am not going to slander books; but I desire that books should be reduced to their proper sphere; that we should have so much of books as is necessary to help the memory and carry on the general system of education, but that the whole shall not be books; that our children shall not be merely machines to commit books to memory, and then not know how to use what they have committed. In order to do that, gentlemen, there is a radical change necessary, and one which I see hardly any prospect of introducing. You must select from the whole community the best and most intellectual men—the men most capable of comprehending things in their general relations,—and intrust to them the elementary schools. Until the man who receives the highest salary in any place is the school-teacher, you will not have brought things to the right position. There are thousands of ways in which men in other positions can help themselves. The man who is in office, or the man who has a liberal profession, can help himself; but the teacher, if he will be true to his duty, cannot help himself beyond receiving his quarter's salary, and living upon that, because his duties are enough to absorb all his energies; and still you can pay more to the clerk who takes care of your property than to the man who takes care of the soul of your child. Is that the proper thing in a Christian community, in our days?—that the cashiers of banks, that the keepers of books in counting-houses, shall receive higher salaries, and, be estimated as more valuable men, than those who educate the community, and those who make souls worthy to be the souls of freemen? It will not be so, I hope, in the future. I trust that the foundation of the Agricultural College will be connected with, and work in behalf of, an

condition of the teachers of the elementary schools, the teachers of our colleges and higher institutions of learning. Of this you may well be satisfied, that you cannot have an agricultural institution well organized without securing to the public schools the pupils that will profit by it. Do this, and all will be well.

DER WETHERELL, of Boston. I have been very much interested in the remarks of the last speaker with regard to our public schools. A gentleman inquired of me the other day, in relation to these schools: "What is their greatest defect, in your opinion?" My reply was: "Too much book, and too little nature." I was very much pleased when Professor Agassiz made this statement, because it so fully concurred with my own conviction; and I as fully concurred in what he said afterwards; for I have any objection to books, for I am too fond a lover of nature to cast any slander upon them; they are our aids in every way. But there is such a thing in our public schools as making the children memorize books until they become mere machines, without knowing about in their memory what other men have thought and written down, without seeing the relation or connection between those books and the things which have given the authors the elements out of which to make those books. I trust, therefore, the professor says, that we shall see this reform, which is so much needed in our public schools, inaugurated. We need improvement, in every sense of the word, in the line which the professor has indicated; and therefore, Mr. Chairman, let us hope that the work will begin, as the professor has well said, in the elementary institution of our educational system, for that is the right place.

I am glad, also, to hear the remarks made here by those who are connected with this college, that opportunities are to be afforded to young men, and older men, if they desire, to attend lectures at the institution, without going through a fixed course, as in the case in most of our colleges. I believe there are institutions already in operation that are as good as we can have, as good as we can desire, for educating the mind. For example, in the department of mathematics, how could you do better than to go to Cambridge? And so I might go on and on in other departments. In that view, I was glad to hear the president say what he did, to wit: that you may go to the

Agricultural College and learn what you desire to learn. If professors are not to be found, it is time we had them ; and if we do not begin we never shall have them. But create the demand for such professors, and as soon as the demand is made the supply will be forthcoming. And therefore I do not believe, as has been intimated, that we cannot carry on the college because there is nobody adapted to it. This would be an argument against all progress and improvement in anything. Just demand of the people what you want, and they are ready and able to furnish what you desire. I think this will be done with regard to teachers and lecturers, in what relates to agriculture, as it has been done in other things ; and therefore, Mr. Chairman, I hope the work will be begun where it has been said to-day it ought to begin ; and then let it go forward under the guidance of the best minds of our Commonwealth, who are always willing and ready to aid in carrying forward such a work.

I think the allusion made to Mr. Mann was well-timed. He awakened among the educators of this State a spirit that has done much for our schools ; but since Mr. Mann passed away, those who have followed him in the care of the schools seem to be resting, as it were, on what he inaugurated. We need at this day another Horace Mann to go into the field and inaugurate a system of improvement in our schools, to suit them as well to the present wants and demands of the people, as they were originally suited to the wants and demands of the people at that time. I trust that this point will be urged.

Further, Mr. Chairman, with reference to the difficulty of getting young men to engage in agriculture, which was touched upon by the president. He stated part of the difficulty, but I do not think it was all. He says our young men have rich lands open to them at the West, and they go forward and occupy them as soon as they have exhausted the land here. That is too much the case ; but, Mr. Chairman, there is still another difficulty, which was touched upon by the last speaker. He said that men are better paid in our banks and in our offices of all kinds than they are in the work of teaching, or would be in the work of agriculture ; therefore the young men leave the farm because the talents, capacity and culture that they get will be better paid in these other avocations. The question has often been put : " Why do our young men leave the farm ? " I



r, "Simply because other avocations pay them better than can be paid on the farm;" and so long as that is the case, men desire to use whatever capacity they have to the very advantage, you will find this will be true. I think the tendency, after all, is in this direction. You may educate the young men of this Commonwealth in the best possible way for the farm; but when you have effected this, their hands will command a higher price in other pursuits than they can in the farms of Massachusetts and elsewhere; and that in the case, the tendency with them will be to leave the farm when they leave the college. I would like, therefore, to have the point of the question discussed—how we are to tempt the young men who are training themselves in the college to remain on the farm? They quit the farm, we know. The last place an educated man will work with his own hands is on a farm, or, if the doctor tells him, "You will certainly die unless you go to work in the soil," he will leave his office or profession as a last resort, not because he desires to do so, but because he cannot. We all go, say what we will against it, for what pays best. I find no fault with that; it is a principle we should not be very much actuated by, whatever profession or business we are engaged in. Therefore I hope something will be said in reference to this problem: how to retain these young men on our farms. There is a desire thus to revitalize the agricultural community. I hope it will be done; I hope this college will be one of the instrumentalities by which we shall do much towards elevating the taste and increasing the desire for rural pursuits. It is true, say what we will, that there is a desire in almost every man to live on the farm. It is the most natural way for a man to live. There is a great deal of desire among our people, at present, for money. There is too much running after the "almighty dollar," not caring what it costs, and too little thought of those comforts which come from a good rural homestead, such as our New England furnishes, with all the social advantages surrounding it. Therefore trust, that in discussing this important question in which we are deeply interested, and in regard to which we have our hopes and our fears—no word will be said to discourage or turn aside the public spirit that would support an institution of this kind for this Commonwealth.

and all New England, and therefore for the good of our whole country. Let us take hold of it as men, and do what we can in our way for the promotion of this noble enterprise, for it is one of the grandest the Commonwealth has ever inaugurated. Let us see that it is so conducted as to secure to our posterity that good which we here to-day hope they may enjoy.

ALLEN W. DODGE, of Hamilton. The question which has been put by the last speaker is one that has been put to me time and time again by intelligent farmers; "After you have given our young men this superior education at the college, how are you going to prevent them from quitting the farm?" I heard a man put it in this way the other day: "The moment you educate a man, that moment he quits the farm; and if you want to keep the farmer at home, keep him in ignorance." I have had that question put, as I say, again and again. It is a very difficult question to answer. So long as other business pays better, and farming is more profitable at the West than here, we cannot expect, by the mere profits of farming, to keep our young men on the farm. But there are other motives that come into play. How do you get men to preach the gospel? Every year there are a large number of young men turned out from the theological institutions of the country who enter that sacred profession, and devote their lives, on very small salaries, to the accomplishment of a good work. Why is it? It is because they have a certain amount of enthusiasm and love for the work; they go into it from a conviction of duty; and that enthusiasm leads them to surmount all difficulties; and money, from their standpoint, looks like a very inferior object. So it is to a certain extent in some other professions—in that of teaching, for example. How many men labor as teachers through their lives, who, if they went into counting-rooms or banks, could make double the income they do from their profession as teachers. I think the great requisite in a college of this kind, in order to lead young men, after they have graduated, to go into farming, is to inspire enthusiasm; and from what I have seen to-day of the gentleman who has recently been elected to preside over the institution which is now in an embryo condition, but which I trust will one day be born to be a living child, I think he is the very man to inspire that enthusiasm. I know a little of farming. I went on a farm from a profession, and it was a new world to

even to the feeding of swine. I could take an enthusiastic interest in that—to see how I could do it in the best way. If I can only succeed in inspiring the farmer with an enthusiastic interest in his profession, depend upon it he will never give it up. That is what we want, and not the dry details—not the drudgery—showing a man the dark side of everything, and permitting him to see the glorious light that shines upon his profession. A man said to me the other day: "What is there to attract a man to farming—what literature? I never read a book on agriculture." "It only shows your ignorance," said I. "There have been more books written on the subject of agriculture than any other, probably, except theology, that you can get." Let a man get interested in the study of some specific subject, and follow it up, and see what different authors have written upon it, and he gets inspired with enthusiasm; and the moment he gets enthusiastic in his work he will go to books and consult intelligent men to find out all that can be learned about it. This is the great thing. A man wants to be filled with enthusiasm; and I will say to all interested, that this will carry a man to the farm if anything will. I believe that if the college graduates—and we trust it will—if the first class graduates twenty-nine-tenths of them will go on to farms, and at once their services will be sought for and valued. Let a man go on to a farm and be thus enthusiastic, and what does he do? Why, enthusiasm is capable of inspiring all about him with enthusiasm; and where men work with a will, how different it is from the way they work under compulsion. It is all the difference between a freeman and a slave. The man thus educated will command his price, and then the money motive comes in.

On this whole matter of agricultural education, it seems to me that the more I look at it the less I know, and the more I am convinced of the difficulties of the subject; and for this reason—the whole thing is in an unformed state. The first difficulty that Massachusetts has in establishing such a college is the work of organization. There are few or no precedents. The only successful precedent, so far as I know, in this country, is the college of Michigan, and that has had a good many pullbacks and difficulties. I don't know but that is the most successful institution we have. The one in Pennsylvania which Professor Pugh carried on for a few years, is now being

changed into a different college. It is a failure from all I can learn of it. We have got to start an institution on an entirely new track, and make our pathway as we go along. How shall we make it? I do not believe that a Board constituted as the Board of Trustees of the Agricultural College is—twenty men—can do it. Twenty men would be very likely to have twenty minds. My idea is, select the very best man you can for president, and then give him a wide margin. Let him go on and stamp it with his individuality; let him mark out the course, and do not interfere with him unless you are satisfied he is going entirely wrong; because it must be an experimental matter for a time, no matter who beats the path; for your road is all a *terra incognita* to you, and if there are twenty men, somebody must go ahead and hold up the light for others to follow and beat his track. Now, if you elect a man who has education, who has a comprehensive knowledge of the wants of the time, who has himself been already a teacher, and who is chosen with especial reference to this thing, it appears to me it is a part of his duty to go ahead, and that the trustees should interfere with him as little as possible. I think that one of the most instructive lessons in regard to starting an institution like this, is to be derived from the history of Girard College. Mr. Girard left a large fortune, you know, to found an orphan college in Philadelphia. He designated, as the board to oversee it, the city government for the time being—a very large body, chosen without any reference whatever to this college—and other bodies, I think; but at any rate a very large number of men; and for some thirteen years this college was floundering about, beating its pathway, but going round in a circle, and doing nothing at all. In a review of the history of that college, published about two years ago in the “North American,” written by some one who is evidently very well acquainted with the subject, the writer says that if three men or one man had had the starting of that college, and impressed upon it their or his individuality, the college would have been a success long ago, without all this loss of time and money, and that the great mistake was in burdening it with too many overseers.

Now, with regard to the connection of the State Board of Agriculture with the Agricultural College. That is already an established fact; our legislature have passed a law to that



; therefore it does not seem to me that the expediency or expediency of that is a matter to be discussed. We have got it and see what will be the result of that experiment or law. I have not a word to say about it. I have listened with great interest to the gentlemen who have spoken on this subject; but it will not do for us to flatter ourselves in regard to what we are going to do with the boy until the child is born. The child is not in being yet. I want to see the child born. I want to see the Commonwealth safely delivered of this child, which we have been hoping would come into being. I will bow down and worship him when he comes, and my only hope is, that Professor Chadbourne will usher him in.

STEDMAN. I cannot agree that the present number of the Board of Trustees is so large as to impede the progress of the college and make it unsuccessful. How has it been with the Board of Agriculture? Have you ever heard of any quarrel among its members, or has it gained ground during these years of its existence? And yet it is composed of twice as many persons as the Board of Trustees of the college. The Board of Agriculture is composed of one member from each society. I have full confidence, Mr. President, that the Agricultural College has now been placed in such a situation that it will go into a successful operation. It is true that I have been in a minority. I was opposed to its location at Amherst, but I have never tried to impede its progress; and however much my faith may have wavered at times with regard to its ultimate success, I am fully confident that it will now go into speedy and prosperous operation.

With regard to the other question, how we are to keep young men upon the farm after we have educated them, I do not think that it is important for us to discuss it. Enthusiasm will do a good deal, undoubtedly; but suppose they do not remain upon the farm, the education has not hurt them. But, as has been intimated, and as we all know to be true, every man in agricultural life has a desire at some time to settle upon a farm; and great many, after having accumulated a competency in other pursuits, have bought farms, on which they have expended a great deal of money. And what has become of them? In many cases the farm becomes a source of discomfort, anxiety and perplexity, and they find themselves in a worse tangle than



in their ordinary business, and sell out and abandon the whole thing. Not long since, a gentleman who had purchased a piece of land near me made some inquiries of me. He said he had purchased this land, but didn't know how he should make out with it, and asked me some questions. I told him if I had it I could make money out of it, but I didn't think he could. I think it will be a source of great discomfort to him, and after struggling along a good many years he will sell out and determine to live without that perplexity; whereas, if he had had a practical education, I have no doubt it would have been a source of great comfort and pleasure to him. And now I say, if nine-tenths of those young men go into other business, the education is not lost. A large proportion will eventually return to the occupations of the farm, enjoy its comforts and blessings, and enjoy the benefits of the education which they have thus received, and which appears, perhaps, for a time, to have been thrown away.

Professor CHADBOURNE. There is one single point in regard to which I think there is great misapprehension in the minds of the community in connection with the Agricultural College. I judge so from letters that I receive and intimations that are dropped from time to time. There has been some controversy with regard to the location of the college. I am glad I know very little about it, and I never intend to read up on it. "Let the dead past bury its dead;" we have enough to do with what is alive. But what I want to say is, that I hope the impression will not go abroad that the Agricultural College depends upon this location or that location, this kind of buildings or that kind of buildings. An institution is made up of its president and faculty—the *personnel* of the institution. Give us that, and give us a barn to work in, if you please.

C. O. PERKINS, of Becket. Some points have come up here, and some questions have been asked, which I have thought upon. The question is asked, "How shall we retain these young men upon the farm?" Is the only question for the farmers of Massachusetts how to create farmers—how to increase agricultural knowledge—or is the question how shall they best make men of their boys? If we want to make farmers of our boys, my observation is this—that we must keep and continue those boys on the farm. We may take our boys off the farm in the

er for three months and send them to the school or academy at is, as long as they will bear to be taken from the farm go back and be satisfied with it. We are satisfied with the employment we are in, until we learn that there are others which better; and when we do we are dissatisfied, uneasy. And a boy goes to school and learns philosophy and chemistry, various other branches, and sees that those who are better educated in these things than he is, are more respected, he becomes dissatisfied and is unwilling to return to the farm. I in my mind some smart young men who will make capable farmers—are so now, indeed. They have been kept constantly home, under their father's eye, and schooled in winter. They do not know how to do any other work, and as long as that is the only work they know how to do, they are satisfied with it. I am all like to do that which we know how to do; we are none of us inclined to take up a new work.

But another question comes into my mind: where are we going to get these boys? The population of Massachusetts is becoming a foreign population. Statistics show that between 1850 and 1860 more Americans died in this State than were born; and during the same time our population increased 27 to every square mile. Now, is it advisable to keep our boys on the farm? I say, educate them as far as possible, and let them make their own selection. I have a boy just coming of age. I remember my boy, two years ago, I didn't wish to make a farmer of him; I wanted him to go to school until he knew more than any farmer he ever heard of. I regret that I have never had those advantages of education which would enable me to give others the benefit of my knowledge; now it can only benefit me. One gentleman says he believes that nine-tenths of the young men graduating at the college will take to farming if it is made interesting—if enthusiasm is displayed in the management of the institution. I admire enthusiasm. It is necessary, not only to our neighbors but to ourselves, to make our own blood circulate. We have an enthusiastic man as president of that Agricultural College, and he will do all he can; but he cannot do everything, and enthusiasm will not do everything. Enthusiasm cannot send nine-tenths of those young men back to the farm. I will tell you where they will go; Professor Agassiz will tell you where they will go. He has got hundreds of thousands of

specimens which he is unable to set up, because he cannot find those capable of doing the work. The moment he gets them properly educated for that labor they are taken away as professors in other institutions—even before he is willing to admit that they are qualified to fill those places. He is borne down with cares, and may go to the grave leaving these specimens unarranged. No one man can do all that work. When these young men are educated I hope they will not go back to their farms; I hope they will go and help him. Vermont is raising sheep and selling them to the West for \$6,000 apiece. The Vermont farmer says if the West will pay us that we can afford to raise them; and if the West will take our young men we do not want them to go back to the farm. But when a man begins to bend towards the earth the mind also turns to the soil, and then the knowledge he has obtained in youth will be of service to him. He knows how to work; he knows all the details of the farm. I would never send my boy to an Agricultural College to learn the details of farming. The more labor you put into a college, the less brains you put in there. You cannot make brains and hands work with the same body, successfully, continually. You do sometimes find men who can do an immense amount of hard work and an immense amount of thinking; but they are “like angels’ visits, few and far between.” A great many of these hard-working and hard-thinking men, when they get to be fifty or sixty years old, and have accumulated a small competence, have one ache in the shoulder, and another in the back, and go prematurely to the grave from overwork. Our substantial farmers work too hard, and our boys do not work enough; but if we want to keep them on the farm we must keep them ignorant of all other branches of knowledge.

I had written out some ideas in regard to the Agricultural College, but I think I will not read them. It is said, “‘Let the dead bury their dead;’ we have an Agricultural College located at Amherst, and it is bound to be established there.” Well, I do not know what to say. If I should say I am satisfied it will be a failure—that it can never be a success there—then it would be said that certain individuals were doing all they could to break down that college. I do not believe the college can be a success there. I do not believe that all the enthusiasm which

essor Chadbourne has,—and I will accord to him that he  
o all that any live man can do,—I do not believe it is pos-  
even for him to make the Agricultural College there a  
ss. I will tell you some of the reasons. In the first place,  
ave not the means to do it. When Congress made that  
of land to us, it restrained us. That is, it said: “No  
shall locate this scrip outside its own limits,”—that is, in  
er State,—“but the State’s assigns may locate it.” We  
o land in this State, but our legislature chose a commis-  
r to go and locate that scrip. When they found they had  
that error they allowed the commissioner to sell the scrip.  
land was subject to entry at a valuation of \$1.25 per acre,  
has been sold at about 80 cents an acre; so that the differ-  
between \$1.25 and 80 cents we have lost. Now, how is it  
ner States? The State of Connecticut sent a man to locate  
lands and assigned the scrip to Yale College. In that way  
ollege gets the benefit of the prospective rise of the land,  
eventually this land will be worth \$5 an acre. In the State  
ew York, Ezra Cornell came forward and offered \$500,000  
e scrip if they would take the Agricultural College of the  
of New York, which had been a failure, and locate it at  
a. He has located the scrip and is selling the land at  
t \$5 an acre. Now, we have two-thirds of 360,000 acres of  
as a fund to start an Agricultural College, and Judge  
ch says that, at five per cent., it will amount to about  
0 a year; and even at six per cent. it will only amount to  
t \$10,000. We have got 400 acres of land that we want to  
blossom as the Garden of Eden. We ought to expend  
00 every year for a long series of years in order to bring  
land into good shape. The whole \$10,000 will be consumed  
e salary of the president or one first-class professor, and in  
should be done to carry on that farm successfully. It may  
id that the State of Massachusetts is coming forward to  
sh all the money needed. Professor Agassiz has said that  
college cannot be run for \$20,000 a year. The State of  
achusetts may come forward to assist the college; but when  
e branches that are to be pursued there, except practical  
ulture, (which means manual labor,) are taught success-  
within a mile and a half in another college, why do we  
to put the State to the expense of getting a new lot of

professors and new buildings and start the whole thing anew there? When we have got the whole thing in progress—when we have got laboratories, and a geological cabinet, and lecture-rooms, and a library, and all these things are in successful running order—I should say by all means send these young men down to that institution to have them schooled in all that is necessary to make them educated men; and then have that farm as an agricultural department, and let it be carried on with all the nicety and taste that can possibly be brought to bear, and with all the enthusiasm, too, and let the boys there see how these things are done.

But then, some one says, the legislature have provided that the boys shall dig with their own hands. The legislature, when they said that, made as much of a blunder as they did when they said that the commissioner should go and locate those lands. No Agricultural College in the world has been successful where manual labor on the part of the students was compulsory. I would have the most skilled hired laborers, and let them carry on all the manipulations of the farm, and let the boys look on and become interested, and, if they choose to take hold, let them do so.

Mr. STEDMAN. I think the gentleman is mistaken if he supposes manual labor is to be compulsory.

Mr. PERKINS. It reads as though it was expected. This is the language of the Act: "They shall make such provisions for the manual labor of the students as they may deem just and reasonable." My preference in regard to that institution would have been to have connected it with Harvard University, and built up the greatest institution in the world, so that our people need not go to France or Germany or anywhere else to finish their education; and let there be a department of agriculture connected with it. Harvard College has been in existence two hundred and thirty years, and spends \$160,000 annually for its running expenses. How can we build up an institution that will be an improvement on that, further than by attaching an agricultural department to it? There would have been some propriety in establishing an Agricultural College where there was no other college. There the local community would have helped sustain the college. But the local community of Amherst does not require two colleges there.



ain, you cannot get teachers. If you had \$150,000 to-day and in the employment of the best teachers, you could not teachers in this country that would fill that school. Our men are located and fixed for life, and we have men that does not duplicate oftener than once in a generation. If n establish something that will duplicate them oftener, let so; but the only way we can do it, in my judgment, is by ng up our institutions that have been in operation for two ries and more, and that have the largest endowments, and ill adding to them. Our learned men like to find their s or superiors if they are to be found. They do not care to Amherst; they come to the "hub of the universe" if want to get the most knowledge. I would like to create titution that should not only be an honor to Massachusetts, lipse all other institutions in the world.

W. BULL, of Concord. I did not intend to say anything s subject; but I cannot help thinking that our friend Per- mas lost his faith, somewhat to my surprise, I must say. thstanding that what he says would lead us to believe that ng lets down the intellect; that the cultivated man cannot ot on a farm; that the moment you send a man to college prove him he ceases to be a farmer; I want to ask him, ey less intelligent in Berkshire than they used to be? Are poorer farmers? Are they not better? Have they not ced as far as the rest of the people of the State upon the of civilization on which we have all been rising? I think ave. I should be slow to doubt it. I believe it is because ucation that all this has happened. You cannot keep the g men of Berkshire and the western part of the State at when they have so much better opportunities at the West. hose who remain are better; certainly their farms are . Farming goes on, cattle husbandry and sheep husbandry ll other things go on better than in former years. You educated a surplus to go out and quicken all the land; t is because of this education—this constant intellectual y in New England, which improves our men so much— them better farmers, better artisans, better teachers, better ants; it is because of all this that the great West is what o-day, and is not like the South. If it is an individual

loss to the parent—if it is a loss to the neighborhood—it is a gain to the whole.

Now I believe, with our friend Dodge, that there is in every living man a love of nature, if you can only waken it. I believe if you open to him the path of success, and wealth, and honor, and he achieves them all, he longs for the earth again, he longs for the homestead ; and like your Pickering, your Lowell and your Buell, he returns to that first love, and by example and teaching influences the race. We owe to those men how much more than to a world of practice, however good it might be, of which you would see and hear very little, and which could not quicken the multitude like the record of that practice, intelligently presented to the minds of the people. I believe in agriculture ; I believe that Massachusetts has it a part of her mission to elevate the agriculture of our country ; and I believe that part of this education has come from this very impoverishment of the land, which has made it necessary ; just as in the future it will be seen that this great rebellion, which seemed about to destroy the Union, was necessary to show us our weak points and establish our Union on enduring foundations, and with more perfect guarantees for the liberties of our children. Providence orders all these things in this way ; and I have never lost my faith in that love of nature which is inherent in all men. I think I should mistrust that man who professed not to have a love of nature ; I should think him “ fit for treasons, stratagems and spoils.”

As to the connection of this Board with the college, I confess I do not have any fear. I believe that if we undertake to interfere with its management in any way, to dictate the method, we should do mischief inevitably ; but, as our worthy president has said, he comes to us for that aid and counsel which he has been with us long enough to know he will be sure to get according to our ability. He knows that when this matter of the establishment of the Agricultural College, as a separate institution or as connected with Harvard College, was debated in the Board of Agriculture, there was but one uniform expression, and that was, that we should take it up like an infant in arms, and nurse it into existence by our best efforts, without interference from the college. We have eminent men in this Board, capable of doing great service to the college in

y of lectures, which they will unquestionably be glad to realize the difficulties which beset the beginning of this tion, the bringing it into the world, as well as my friend s ; but they do not discourage me at all. We have nothing the past to guide us, to be sure ; but this I think I know, that it is possible for man to do can be done in Massachus ; and since there has always been faith that this thing done—since there have been experiments made in , adapted to their peculiar circumstances, which have successful—we can see that it is only necessary to adapt lege to the circumstances of the case, in our country, to t a success. If we say it will not succeed, we overwhelm doubt in the public mind immediately ; and I think that en said quite enough. But if we say, “ We will take hold lp it succeed, and make it succeed,” then success is l. You have got the right man ; you have got the good the legislature ; you have certainly got the friendly aid oport of this Board of Agriculture ; you have certainly the part of the great public, an earnest desire to have eriment succeed ; and as against all that, you have only that it may not succeed. Throw away fear and insist shall succeed.

re comes into my mind at this moment an illustration of have said in regard to education improving the farmer taking him love the farm, if he loves the land at all—if he arming for his profession. We have in the town of Con- young man who was an artisan of such rare skill that he d property very fast. He wanted to be a farmer, and buying a farm he went to Europe to qualify himself to be llectual farmer. He went to an Agricultural College and stayed two or three years, and after learning all uld learn there, he came back, and in the most quiet pretending manner went to farming like his neighbors ; a farm of twenty-five acres he now supports four times y cattle as the person he bought of, and two more cattle y other farmer in Concord on the same number of acres. s it by force of intelligence, by reason of the adaptation ns to ends, through the scientific methods which he has l abroad in relation to agriculture. He quickens, you that part of the town in which he lives ; he quickens

those men, reckoned successful before, to still further efforts to achieve yet higher success. They go to him to see how he does it, and he shows them his methods. There is not a particle of the valuable substances which are to so great an extent lost by other farmers in making manure lost by him; everything is saved; everything is applied with the utmost skill and intellect, and the result is astonishing. Yet he is only a young man. I think that instance shows that if, out of the twenty young men you educate in a year, there are two who go back to the farm, one in one place and one in another, you send out every year two apostles; and this influence will increase, until at last agriculture will be accepted to be (what we so well know it to be,) an intellectual pursuit. You see the process in the mind's eye, by the relation of cause and effect. Your scientific principles prevail whether you see them or not. When once the talk about the debasement of farming (falsely so called) ceases, it becomes an intellectual pursuit. Gentleman, follow it and you can talk about the processes of agriculture, the improvement of cattle, and all those things, just as we do now about bank stocks and other fashionable subjects. I have entire faith in the success of the Agricultural College.

Mr. PERKINS. I did not mean to intimate that the farmers of Massachusetts were deteriorating intellectually. I claim that the whole of Massachusetts is rising in intellect, and the farmers going up with the rest; but I did not mean to have it inferred that a well-educated man would be increasing his knowledge particularly by turning to farming again. I think our agricultural societies and our farmers' clubs in Berkshire have done wonders for our farmers. Wherever we have an agricultural club I can see it has improved our farmers in everything they have to do with.

Mr. DODGE. There is one idea that suggests itself to me in regard to this Agricultural College being placed so near to a literary college. It has been argued that this is a disadvantage. If there were any connection between the two, I think it would be; but this Agricultural College is entirely distinct from Amherst College. Governor Andrew, when this matter was broached, recommended a union of the Agricultural College with Harvard University, stating, what was very plausible indeed, that the Bussey farm, which was left to Harvard College

the purpose of establishing an agricultural department, have an Agricultural College founded upon it. The Governor urged very forcibly that the Agricultural College be united with Harvard College, and the intention of the Legislature of that will be carried out. But the Legislature said they said so decidedly: "We will not be connected with that or any college." Well, there is an end of the matter. Next year I talked with Governor Andrew on the subject, and he said, "It is a pity that thing could not be done." His reply was "I recommended it to the Legislature; I was beaten, and now when I am beaten. It is impossible, with the temper of the Legislature, to make a union with Harvard College or any college." Now we are located at Amherst. The trustees made the best selection from the different farms that were offered them; and I will venture to say that no man on the spot will say that it was not the best selection as a farm. The location, perhaps, would have been in Lexington, being in the centre of the population of the State; but the farm offered in Lexington was very ill-adapted to the purposes of an Agricultural College on one account—it was a very sour, cold piece of land, full of rocks, and in no way adapted to the purposes of a college. Therefore they did not go there, or this was one of the reasons why they did not go there.

The objection is brought up by Mr. Perkins and other gentlemen that the location at Amherst is so near another college that the Agricultural College cannot flourish; and Mr. Perkins says that if it was established in a town where there was no college, it could get a large number of students from the local population. That is the very class of students we do not want to have in, because they would naturally go there to get an education for other purposes. Now, those who want to qualify themselves for other professions will go to Amherst College, and we shall get for the Agricultural College just such men as we want. I think the fact that there is another college so near will be an advantage. Amherst College will attract men in pursuit of a liberal education, and the Agricultural College will attract those who have a love for old mother earth, and are willing to live with her and die with her. God bless them! They will come—I think they will.



Professor AGASSIZ. I have been an advocate of the combination of the higher institutions of learning, whatever their character, because I believe it brings together a larger number of men who are endowed with higher powers, and that is for the good of those institutions; but I wish not to be understood as carrying these ideas of concentration to the lower schools. Concentration has its great advantages in the higher schools, because the number of capable teachers is not proportionate to the desirableness of those institutions. I will quote an example. The whole of Germany has not three persons equal to Liebig, and yet Germany has thirty-two universities. Then there are twenty-nine universities that have second-rate professors; and so it must be, necessarily, elsewhere. We have in the State of Massachusetts five colleges. Can you expect to have five professors of chemistry equal to Liebig? You cannot. Therefore it would be desirable, for the sake of higher instruction, that we had not so many colleges. That is my doctrine with reference to the higher branches of education; but when we come to elementary education and high schools we have not got enough, and those we have are too crowded, and in each of them the teachers have too many pupils. There the teacher has to do something more than merely give out what he knows, trusting that his hearers will take as much of it as they are capable of taking. He is actually to bring the young to understand how to learn; and to obtain that result the relation of the children to the teacher must be somewhat that of the children in a household to father and mother. There must not be more than the teacher can really educate; and most of our schools have twice as many scholars as can be properly taught by the teachers. I believe that one of the causes of the want of real and rapid progress in conformity with the demands of the age in our elementary schools arises from the fact that they are too few, that in each of them there are too many scholars, and that there are too few teachers.

Dr. LORING. I have occupied a good deal of the time of this meeting to-day, but on the matter of teachers I desire to say one word more. It seems to me we have allowed our minds to be led away a little this afternoon into those difficult questions which have somewhat agitated the State with regard to the location of the college, and which have disturbed the trustees of

property which was left the State for the purpose of building a college. I look upon all these matters as of minor importance. I think the trustees will manage in some way or other to get themselves out of their difficulties. They are practical men; they are practical men; they have got but one heart, and that is, the foundation of a college that will be in accordance with the tastes of Massachusetts, be creditable to ourselves, and useful to our young men. I am therefore fully willing to overlook any difficult questions of that sort, and am also disposed to take it for granted that the college is a useful thing, and may be made a good thing, and that, necessary, without regard to its location. It seems to me that 100 acres of land in one place, if it is good land, is just as good as 400 acres of land in another place, if you only have upon that land just exactly the same amount of brain as you have in one place that you do in another. The fact that this college is within a mile and a half of Amherst College does not involve it in the fate of Amherst College; it does not establish the peculiar views of Amherst College; it does not make it the best College in any way; it simply indicates that the people of Amherst came forward and led the trustees to suppose that they could comply with the terms of their proposition better than any town in the Commonwealth. That seems to me to be the fact in regard to that question. For one, I should have been glad to have seen the college elsewhere, I am free to confess; I find no fault with Amherst; I shall be perfectly willing to leave it from here there; and I do not want to throw any obstacle in the way of the establishment of the college. I am willing to look at all this matter, for there is one thing which I think we should do, and ought to do. There is a sort of fraternity of literature—a fraternity of intelligence. It makes not the slightest difference whether it is agriculture, science, medicine, law, divinity, or what not; there is that delightful community of scholars which every educated man should desire to be introduced to, and the lowest ranks of which every man will find sympathy with those who sit in the highest seats of the synagogue. Now, the fraternity I desire to have established here in Massachusetts. I only desire that the Agricultural College should be part and parcel of the great system of education in Massachusetts, so organized, that the boy, beginning in the primary schools, may

pass on upward until he has fitted himself to do the work which God designed he should do, but I also desire that between us here and those in other countries who are endeavoring to investigate these abstruse and difficult questions, there should also be fraternity of feeling. We should establish this fraternity at once. We have not established it as yet, in that branch of business which we have adopted as a profession, and which has occupied as much thought as any profession in the world. We have all read the valuable works on farming which are prepared by our own thinkers and writers; but what I said this morning is especially true—we have it in our power, through the instrumentality of this Agricultural College, to elevate the standard of our agricultural literature, until it shall range alongside of that foreign literature which appears in the transactions of foreign agricultural societies, and which constitutes a part of the scientific knowledge of the world. We can do it; we ought to do it. If we will but faithfully apply ourselves to the work of guiding this college, wherever it may be located, in the right way, we may establish a telegraphic wire between Massachusetts and the best chemists, the best savans, the best scientific men, in England, France and Germany, which will be worth all the wires which will ever be laid beneath the waves of the Atlantic Ocean. It will put us into immediate and active communication with those men, and will open the door for every farmer's boy, if he will but avail himself of the liberty to pass on through the primary portions of his study up to those heights which are not reached by more than one Liebig, perhaps, in a generation, but which he should ever strive to attain. We have been told that there are thirty colleges in Germany, and only one professor like Liebig. Heaven knows how many colleges there are in the United States, but there is but one Agassiz, (applause,) and we did not raise him ourselves. (Laughter.) Let me tell you, gentlemen, the only way for Massachusetts to make a Liebig or an Agassiz is for her to go to work now, and keep at work until she has accomplished the object. It may not crop out in the medical profession, where we have so abundant means of teaching; and yet we have Warren, and Jackson, and Holmes; we have nearly reached the acme. It may not crop out in law; but we have got pretty near it; Shaw, Story, Choate—we need not tremble before other States or nations. It may not crop out

ivinity, but we have come pretty near it—Ware, Woods, rns, and others. It may not crop out in science, but we not tried it yet. Now, I propose that the brain-work of Massachusetts should go at this business, and the same power has produced these distinguished men in other professions, possibly develop, in connection with the Agricultural College, some natural historian who will do honor to his State and light throughout the world. I do not despair. I am sure if the farmers of Massachusetts will turn their attention to the work, they may accomplish what I have already alluded to—that fraternity of literature, intelligence and science, the best free-masonry on earth; and they may bring forth for us men that we want in this profession. We can get them no other way. Now, I have taken that point. I think worth toiling for and working for, and I am willing to do what I can, in my small way, to accomplish it.

One word in regard to another matter. Let no man suppose we are raising scholars, farmers or teachers for the West. I want them here. This is the best missionary ground I know. For while our mills, shops, banks and all mechanic arts have succeeded—while we have built cities from one end of the State to the other—built railroads and bored through mountains—filled up valleys and pulled down hills—we have all the while been saying that agriculture was an inferior occupation, one in which the sons of Massachusetts must seek for wealth abroad. Now, we have got at least one small agricultural school already in Essex County; it is not a large one; there is one scholar and one teacher; but he has studied and worked and he knows all about it. He has been living in Illinois, on the fat lands of the West, and he came home to Massachusetts, trusted with Western agriculture, to apply himself to the soil of the old Bay State. He told me last Friday night that he had raised better crops on a hill within two miles of Lawrence than on what are called the rich, fat lands within two miles of Chicago. He showed me his crops, and proved to a demonstration that a careful application of the principles of agriculture, which he had reduced to a science, was of more value to him on one barren, almost, than anything he had been able to accomplish within two miles of Chicago, with all the agricultural fame of Illinois behind him. I ask the people of Massachusetts to

remember that; and when they know that this man can raise \$900 worth of cabbages to an acre, which he could not do in Illinois; when they know that he has succeeded in producing, by a mingling of different varieties, cabbages that exceed any that were ever produced before, by his own diligence and discretion; when they know this, they must recognize that industry, intelligence and skill may be applied just as well on these lands as to the richer lands of the West. I would have this remembered, because, let me tell you, that there is no State in this Union—and I have travelled through almost all of them, Virginia, Pennsylvania, with her rich valleys, New York, fertile as she is—there is no State in which a man can devote himself to the specific branch of agriculture, with all the powers which God has bestowed upon him, so well as here in Massachusetts. You have a city for a market within almost every twenty square miles; you have an industrious, wealthy population; you have every variety of soil; you have every opportunity to make this State as good an agricultural district as the Moors made Spain, or the Romans ever made of Italian valleys. Now, why go abroad? There is no occasion for it. Let us take it for granted that there is as good an opportunity for intelligent farming here as anywhere, and turn our attention to our own soils and grasses, and I think we shall get along full as well as if we emigrated to the West. We here in Essex County have done a little. Last autumn I was in New York State, surrounded by all the agricultural wealth of that great Mohawk Valley, speaking to the people there in the open air upon practical and scientific agriculture; and it occurred to me what was going on at home. I said, if they would excuse me, I would tell them that in the little county of Essex, rock-bound, abandoned to the north-east winds until it seemed to be stunted in all its vegetable growth, men had produced, in the first place, out of the industry and skill of their practical farming, the best formed and most productive onion that could be grown for market; in the same way they had improved the cultivation of the cabbage until they had bred the stone mason; in the same way a young man in Salem, throwing all the theories of hybridization to the winds, had, on the land of a little garden, grown the best table grape in the world. All that, I said, had been done by careful, industrious and capable farmers, and I wished to remind them



so much could be done upon such a narrow corner of Massachusetts as this. Now, I bring these facts to your minds to show that we can carry on the business of farming, and carry it on here at home; and the better educated we are, the closer alliance is with the distinguished men abroad who are engaged in the same business, the better will be our agricultural education, and the better will be our agriculture.

Journed to meet at 7½ o'clock, P. M.

#### EVENING SESSION.

The Board met at the hour appointed, when a lecture was delivered on the

#### VARIETIES IN PLANTS.

BY PROF. P. A. CHADBOURNE.

GENTLEMEN: When I last had the honor of addressing this audience, I spoke on the *Relation of Plants to the World*—to soil, climate, and to our place in the solar system. I also spoke of the relation of plants to the animal kingdom, especially of that curious relation by which plants seem to respond to the instinct of certain animals, providing, by a fixed law of growth, both shelter and food for many of their insect enemies. We should naturally expect that they would respond as fully to the intellect of man. And I propose to treat to-night of the *final cause* of varieties. There seems to be in every plant what may be called a *creative idèa*—that is, a certain purpose, often dimly manifested in the wild plant, but which is more perfectly developed by all the changes produced by cultivation. And while development under cultivation may give rise to an untold number of forms, as in the case of apples and other fruits, this original idea is never lost. While the species unfolds itself in the production of varieties, there seems to be a line beyond which it cannot go. Of this fact, our cultivated plants, so long companions of man, are the best proof.

Accepting, then, the common definition of varieties in the animal kingdom, we regard them as forms produced by the variation of species. The cause of this variation has never been explained. It was formerly referred to soil and climate; probably the only account that will ever be given is: such is the nature of species. It is a law written on the plant and animal, that in their development there shall be variation from

the original stock, but only in certain directions. On this point we quote the language of a distinguished scientific man who has lately written much upon this subject. It would be difficult to find, in the writings of any other author, all that we really know on this subject, condensed into so few words:—

“The former [*variation*] has never yet been shown to have its cause in ‘external influences,’ nor to occur at random. As we have elsewhere insisted, if not inexplicable, it has never been explained; all that we can yet say is, that plants and animals are prone to vary, and that some conditions favor variations.” \*

We thus confess our ignorance of the natural causes that produce variation. We propose to discuss its *final cause*. This implies that there is in it a purpose. If there is in the variation of objects in nature a purpose, that purpose must have relation to the objects themselves, or to some other beings connected with them or in some way related to them. Our special object will be to show that all variation from original forms in the animal and vegetable kingdoms is not in general for the good of the object in which it occurs, but for the good of other objects in some way related to it. We think it will readily appear to any careful observer, that much of the variation in both of these kingdoms has special reference to man as an intellectual and moral being. But we shall, for want of time, confine our present examination mainly to plants.

For what purpose are the petals of the flower, the crown of beauty to the plant? Certainly they are not absolutely essential in the production of seed, for many plants are without them. And if in any case they are deemed essential, certainly the beautiful pattern of the petal, its numberless modifications and delicate tints, adjusted with masterly accuracy, are not necessary parts in the economy of plants. Of what use to the plant is that row of sterile flowers that adorns so many of our composites, the Rudbeckias and helianths, or that curious circle of sterile flowers bordering the cymes of hydrangeas and some of our viburnums? We may be told that they have no use, or that these apparently useless parts will at some time be found to be of importance in the economy of the plant, aiding directly or indirectly in the perpetuation of the species.

\* Professor ASA GRAY.

will go one step further, then, and ask: What end is sub-  
served by double flowers? All agree that one use of the flower  
is to produce seed. But the perfectly double flower loses the  
power of reproduction. The rose unfolds its stamens and  
converts them into petals, and thus gains in beauty till it becomes the  
consummation of a flower, but always at the expense of seed.  
What use, in the economy of the plant, does the flower subserve  
when it can no longer produce seed? It does not perpetuate  
the species, so that this variation cannot be for the production of  
a new species; and more than this, it is a draft upon the nutri-  
ment that would otherwise go to build up the plant that produces  
it. By becoming double the flower has ceased to be of advan-  
tage either to the species or the individual plant. But does  
it thus defeat her own ends, and provide for the destruc-  
tion of some species by the very law of their growth? Not at  
all. In every plant which by cultivation is so far changed as to  
lose the power of producing seed, there is some other provision  
for the propagation of the plant, as by slips, by grafting, by  
cuttings, and the like. Nature seems thus to provide, in the  
structure of other parts of these plants, for the development of  
flowers in the line of beauty at the expense of seed. And  
when annual plants become double, they at the same time  
become perennial.

Let us examine another group of plants, belonging to the  
same natural order as the rose. For what purpose is the fruit  
of the apple-tree, the pear-tree and the peach? Their seed is  
entirely for the propagation of the species. But still we ask:  
What purpose are the *apple* and the *peach*? The germ is in  
the seed, or within the stone. The economy of the plant does  
not require that the covering of the seeds should be increased in  
thickness or heightened in flavor, for the seeds come to their  
best development in the unchanged native fruit. If the  
improvement in size and flavor is not for the seed, it has no  
value to the plant. And probably no candid person will con-  
sider that the change in cultivated fruits, which renders them  
valuable to man, has any more relation to the wants of  
the individual plant, or of the species, than the milk of the  
cow has to her own wants. If this change has any purpose  
it is for something outside of the plant. The seed is not  
for the plant that produces it, but for the species. The change

of covering, as already indicated, is of no advantage to the seed. Its increase in size is therefore a draft upon the tree, without having any relation to the species. So far as the economy of the plant is concerned, it is a mistake. The machinery is out of order. There is an absolute throwing away of material and of vital energy. And this goes on, as in some oranges and grapes, till no seeds are formed.

We are now prepared to introduce and illustrate certain propositions, which seem warranted by plant development :

1. In some plants the idea of beauty is the most prominent idea, inasmuch as under the best cultivation the variation of these plants is always in the line of beauty, either in the leaf or flower. The beauty of the flower—the rose, for example—often increases at the expense of the reproductive organs, until the power of producing seed is lost.

2. In other plants, utility of fruit is the prominent idea, as in the apple and the peach. Such plants, under careful cultivation, produce larger and more delicious kinds of fruit, without increase of beauty in the flower.

3. From these two propositions another follows: That the plants best known to us from long-continued cultivation can be readily divided into two great series, without reference to their botanical relationship, but according to their lines of development. In one series *utility of fruit* is the prominent idea, and in the other *beauty of flower*; as under the best cultivation these series are developed in these two directions respectively.

The idea of utility is not manifested by fruit alone. The sugar of the sugar-cane constitutes its utility, while that of the Indian corn lies in its grain. These plants, so nearly allied botanically, are developed in these two directions, according to the leading idea in their products. The apple and the rose, already referred to, belong to the same botanical family, yet they are developed, in nearly all their variations, in opposite directions. The potato has, for its leading idea, the formation of underground stems or tubers; while its brother, the tomato, has for its idea the production of a fruit corresponding in structure to the potato-grape. They show this in all their variations. In the pine tree the leading idea is wood, and in the mint, essential oil. But in such plants as do not readily produce varieties the line of development is determined with difficulty.

Some plants in their native state give indications of the  
of change likely to take place in them by cultivation.  
rose, for example, by its large corolla in comparison with  
fruit, shows that change of flower is most likely to take  
. In the apple, the large fleshy fruit indicates a tendency  
variation and improvement in that direction. The viburnum  
s, the hydrangea, and other plants, by the circle of sterile  
rs, much larger and more beautiful than the fertile flowers,  
ate change in the direction of beauty. These beautiful  
s of sterile flowers in some of our native shrubs, and the  
ral rays of some of our compositæ, may be regarded as  
ments, rather than as of use, in the economy of the plant.  
n, therefore, a new plant is brought under cultivation,  
e is little doubt in what direction it will vary, if at all.

Those plants that by variation lose the power of producing  
can always be propagated in other ways, as by slips or  
. Nature, as though careful for the preservation of the  
es, never allows any plant, by its own law of growth, to lose  
power of producing seed, unless she has given to it means  
than the seed for the perpetuation of its kind.

Variation is most common and rapid in those plants which  
most useful to man for cultivation, and which must go with  
over most of the earth. It may be said that they are most  
l because they happen to vary. But their readiness to  
certainly was not the cause of their first cultivation. They  
selected for some particular good, as for fruit, or for beauty  
power, or some other useful property. The characteristic  
hich each one was first selected was the leading idea of the  
, and in that direction all its variations under cultivation  
tended. The rose, in all its varieties, is to-day cultivated  
he same reason for which it was first cultivated—for its  
ty; the apple-tree for its fruit; the sugar-cane for its  
tness; and so on through the list of cultivated plants.

e might multiply propositions and examples, if our space  
red. As they would not differ in kind they are not needed  
he argument. Apparent exceptions to the propositions  
dy stated may undoubtedly be pointed out, for it is well  
rstood by naturalists that Nature does nothing *per saltum*.  
lly a group of plants can be examined in which there will  
be found one or more that the family description will not



embrace in all particulars. There are also some plants so valuable for several purposes that it would be difficult to determine in every case the leading idea. They are made for a double purpose, and may develop in either direction. The apple-tree with double blossoms, or the tomato with tubers upon it, would not, therefore, with any candid person, affect the bearing of the propositions. If a law of nature is really discovered, all exceptions are either merely apparent, or if real, are found to be special provisions for some wise purpose. It is the general law of variation that we now wish to present for consideration in the propositions just enunciated. If these propositions have any significance, to what do they tend? Certainly to show that the vegetable kingdom is not an end to itself. Men and animals do not make use of plants because they happen to be what they are; but the plants are constituted as they are for the sake of the animal kingdom, and many of them with direct reference to man as an intellectual and moral being. It is by the law of variation of species that they are most perfectly fitted for these high purposes.

In almost every department of plant life the changes can be referred primarily to the good of the plant itself; and thus it is easy to say, and no doubt easy for some to believe, that there is in them no purpose other than the continuance of the species, if any purpose at all. The cereals—wheat, rye, barley, Indian corn and rice—furnish the great bulk of food for the human race. We have no doubt that most men will believe that they were made for this purpose, and not that they happened to be what they are, or that the primary object in importance was that they might propagate their kind, and that the support of animal life was no part of the plan, but accidental or subsidiary.

Yet there is much that seems to favor the theory that all the machinery of fruiting is for the continuance of the species alone. If the germ fails to be fertilized by the pollen, no sugar nor starch nor gluten is stored up in the seed for man. But when the pollen has touched the germ, there is power of independent life, and from that moment all the energies of the plant are taxed to store the kernel with food. But food for what? for whom? For the young plant, all agree. It puts in the seed the food which that germ needs for its support, till its roots and leaves are large enough to collect from the earth and air the

materials and elaborate them for use. For what purpose starch garnered up in the potato, and the sugar in the carrot and the parsnip? We shall be told that they are stored up for the plants themselves, to supply the great draft upon them in producing fruit. We cannot deny it, nor wish to do so. We love to contemplate the parent plant giving for every one of the thousand plantlets folded in its destined to beautify the earth when its own withered stalk has passed away. Would that men might learn a lesson from it and provide for their offspring enough, and only enough, for the wants till able to provide for themselves. We can hardly but admire the seeming prudence of the honest beet and the turnip, that industriously gather stores of food the first year of its flowering time, when both root and leaves would fail to supply their wants. In all these things we have been compelled to recognize a wisdom and a skill that thus arranged this economy of the plant.

But in the very arrangement for the plant itself there seems to be set forth a higher and nobler purpose. In the multitude of seeds, an apparent waste of energy, there seems to be a provision for their legitimate destruction by a higher creation. If the grain of wheat fails to fill unless the germ is there, does it not see that it is better for man that it should be so? Is it not best for him that every grain of wheat should represent so much food, and also a certain centre of new plant life. What uncertainty would the husbandman sow his field, if he knew that only one in a thousand of the precious grains scattered in the furrow would give the green blade, and, in time of harvest, the full ear! He who regards the support of animal life as the highest use of the vegetable kingdom, must also see that the certainty of propagation is of prime importance in the economy already mentioned.

But we have perhaps too far prolonged this discussion on this phase of plant-life—the production of food. We readily admit that in the majority of cases the food for animals is produced in a way that seems primarily for the benefit of the plant, either individual or species. To some it may appear to be produced solely for the plant. To this, however, we think there are many plain exceptions; and among them we mention our soft fruits, which are the envelope or mere accompaniment of the

seed. The seeds need a covering, it is true. But why should the covering of the apple-seed give the thousand kinds of this delicious fruit, of every tint and flavor, and varied time of ripening? Why do the pear and peach vie with the apple in the diversified forms and flavors they offer? Why does the strawberry enlarge its receptacle into that most delicious fruit? Why does the grape bury its seeds in such a luscious pulp, and sometimes form the pulp without the seed? That the perfection and variety of the soft portion of such fruits play any part in the economy of the plant, no one will probably contend. The pulp of the grape represents to man so much food. If it forms without seed, it is the cause of no indirect injury, as the filling of wheat grains without the germ would be, because it never represents new plant-life. If the soft fruits have no purpose except to cover the seed, their increase in size and improvement in flavor are a mistake. The native apple, in all its harshness; the frost grapes, which the animals allow to fall with their seeds untouched, unless driven to eat them or starve; the peach, in its hard covering, and the button-pear, which no cooking can fully conquer; all these are for the plant the perfection of fruits. Such fruits perfect and protect their seeds. But our Black Hamburgs and Sweetwaters, our Pippins and Bartletts, are mistakes, and evidences of want of creative design in such plants, if they have no end out of themselves; for all these variations from the original stock either weaken the seed or invite to its destruction. Because they are of no advantage to the plant, must we grant that they are a mistake or without significance? By no means. Nor do we think it possible for the majority of men ever to believe that we have not here a direct provision for the animal kingdom as a whole, and for man in particular; a provision that shows wisdom, though through it plant-life is made entirely secondary. The continuance of each species of plants must be provided for by some means, or its creation would be a failure. This being done, sometimes by one method and sometimes by another, all the remaining parts of the plant may be modified for the benefit of this higher kingdom. It seems to us that all these modifications indicate this ulterior purpose, to which the interests of the plant, so to speak, are made to yield. We have no doubt, indeed, the three kingdoms of nature are all arranged with reference to man, especially

intellectual and moral being. We never could see how the structure, the whole science of homologies in the animal and vegetable kingdoms, could be fully comprehended by any one without the recognition of a direct provision for man as an intellectual being. Animals and plants are constructed with apparently for no other purpose than to show their true place in the organic kingdom. We believe that they were thus put together by homologous parts that they might be comprehended by man, that he might more surely trace the plan of the Architect. We believe this, also, without reference to the question whether these parts came to be as they are through secondary causes or by direct creation.

In the provision made for the increase of beauty in the flower and in the fruit, there is certainly no reference to the welfare of the plant. For beauty increases at the expense of the seed, the final end, or one use of the flower, as all will allow. When we see the tendency to variation in such a multitude of flowers; when we see it confined to those plants having methods of propagation other than the seed; when we see this tendency conferring no benefit upon the individual plant nor upon the species; when we see what a source of enjoyment this law is to a man in the highest cultivation—we might say, how necessary for that highest cultivation—can we doubt for what purpose this law of variation was given? Who can fail to feel that the plant is not made for itself? but so far as it seems to be for itself it is simply that it may exist; but it exists for a higher kingdom; and that the cause of plant variation is found mainly in the wants of man, not only as a physical, but also as an intellectual being.

There is another significance of varieties besides their adaptation to these wants of man, although to some it may seem a mere accident. We refer to the conditions thus presented to man for continual progress. In consequence of this wonderful law of varieties there is opened the possibility of continued improvement; to reach the limit of this improvement is impossible. It is true that each species produced from age to age the same physical form, without the possibility of variation and improvement—whenever each species was secured, all would be done that could be done in that direction. We have but one species of man. From this have been produced hundreds of distinct varieties. There might, indeed, have been as many distinct species

created in the beginning. But even then, all that could be done would be to secure the kinds created. In consequence of this wonderful law, the same end is reached as in the creation of numberless distinct species, and in a manner far better for man. From one species have sprung unnumbered forms. The next year may produce others still more desirable, and the next year others still more desirable, and the next year others, and so on forever. It is impossible for man to say that he has now the most delicious apple, peach or pear, or the most beautiful rose, or the most prolific variety of corn possible. The next year a better apple, a more beautiful rose, a more prolific variety of corn, may be produced, and this shall be true forever. There is thus laid in this law of the animal and vegetable kingdoms the surest conditions of continued progress in man. The possibility of better forms is ever saying to him, Onward! Upward!

In thus viewing the law of variations in all its manifestations, we have forced upon us the conviction that, while it sometimes has reference undoubtedly to the plant or animal itself in the preservation of the species; in its higher manifestations, especially in the vegetable kingdom, it is for something out of the plant, and for a higher creation—the animal kingdom; above all, for man as a rational creature.

The subject of variations, which we have been discussing, has given rise to the development theory. We accept the facts of variation and the influence of “natural selection,” but not the inferences that are drawn from them.

We see the need of variation for the best good of the world, for man himself. If provided for in the creation of certain species, and those species most useful to man, we see in this a mark of wisdom, as much as in the adaptation of the parts of our bodies to each other, or of our bodies to the external world. We regard, then, the law of variation as a means of preserving the species under certain circumstances, and as a means of better fitting created things for their various uses, and not as the creator of the thing, nor in any sense the originator of the species. Variation is the *quality* of a species, and not its *producer*. Varieties simply unfold and exhibit the creative idea in the species. We see nothing yet to shake this belief. But if the lessons we have learned from geology and living forms are to be modified or proved to be mistakes, we will welcome the



light. It will not be hard to change opinion in such a company.

Professor AGASSIZ was then introduced, and spoke as follows :

#### ADDRESS OF PROFESSOR AGASSIZ.

The address you have just heard has turned my thoughts so completely in that direction, that, if I were to follow my first intention, I should speak without thinking very earnestly of what I was saying. I ask your indulgence, therefore, if I take the subject where Professor Chadbourne has left it, and add what he has said a few considerations derived from the animal kingdom, which have a similar significance, and have their application in reference to agriculture.

This practical business of cultivating the ground and raising crops for special purposes is an awful fact to theorists. This practical business of life, as was well said this morning, in the opening address to the Board, is the test of all doctrines and of theories; and those theories, however well supported, which do not stand that test, have all to go by the board. I look forward to the experience of the farmer to give to science the means of advancing in the direction which is at this moment imperilled by mere theories. We cannot deal either with animals or plants practically without knowing their nature; we cannot cultivate a crop without knowing the character of the plants which produce the crop; we cannot raise stock without knowing the nature, the habits and disposition of the species of animals which has been so brought into a state of domesticity; it is, therefore, a practical question, which at once touches practical views, in the present state of our science, to know what are the relations of these things which we grow, or which we domesticate to one another, and all those things which are yet brought under domestication or culture, but which, in their relations to the others, show such an affinity that an attempt at cultivation or domestication may be possible.

In order fully to understand this subject, we have to deal at once with an abstract question—that of species; to consider whether there is such a thing in nature as species or not; to consider what are the things which we call varieties in our domestic animals, on our farms, or in our stables; and how these vari-

eties compare with what scientific men call species. And here let me request you to distinguish between the sense of the word "species," as it is used in science, and the vernacular use of the word, by which any different thing, whatever may be the nature of the thing, may be called a species of that thing or another thing. That is not the meaning in which science uses the word species. The word species in natural history designates a certain kind of existence which is definite, and applies to animals and plants having certain properties; for instance, that of reproducing themselves with the same essential characteristics. That is a species; and at once the question arises: Where are the limits of species, and what constitutes variety? and how are species derived, how is variety produced, and is it possible to originate new species by the development of varieties?

If it were possible to originate new species by the development of varieties, you see at once that man might be able to enlarge both the animal and vegetable kingdom, and become a creator. And the doctrine is at this moment very generally received throughout the scientific world, and actually maintained, that not only man, but those general influences which act in nature as the stimulants to the growth of animals and plants, may so modify any living being, animal or plant, which has once had an existence; as to change its essential nature, and bring out, in consequence of those influences, new forms, so permanent, so distinct, and so essentially different from those that existed before, that they should be considered like species; that, in fact, in that way, all the variety in nature has been produced, and that original creation amounted to nothing but giving an impulse to life; so that, life being once called into existence, all this variety has been derived in that way, by successive influences of secondary causes. That is the doctrine; and that being the case, we are of course the lineal descendants of monkeys; the monkeys the lineal descendants of the next lower race of quadrupeds, and these the lineal descendants of lower and lower beings, and we come at last to the assumption that there was at the beginning a very simple form of life called into existence, from which has sprung all these diversities. And this mode of argument is legitimate, as soon as you tell us that you can produce something different from what there is primitively and naturally in the plant you cultivate or in the animal you raise. But if you

us that you develop only such properties as are inherent in plant, as are inherent in the nature of the animal, and that add nothing essentially new, then that doctrine is at once dictated. You see, therefore, that some of the most important elements that enter into the decision of questions of abstract science are left for you to work out. Only let the farmer, when he goes to work to examine his proofs, do it with a particular knowledge of what he is to report upon in reference to this question. If he tells us that he can raise wheat out of oats, that he can raise corn out of rice, that he can raise hemp out of flax, then he will have shown just what the doctrine of transmutation assumes; but if, on the contrary, the farmer tells us that he is ever moving in a circle, which is returning upon itself, that within that circle there is, in one case, nothing but apples, in another nothing but pears, in another nothing but cherries, in another nothing but grapes, in another nothing but peaches, in another nothing but corn, however great the varieties of wheat, of corn, the varieties of apples, and so on, may be, then, he tells us that he does not make species, but only unfolds to the utmost the properties inherent in their inherent properties.

You see, then, how important it is for us scientific men to have the aid of this powerful machinery, which has worked for so long a past, and is to work for ages to come, as the generations of men need food and protection. From that machinery we are enabled to receive all the information we need to test this question, and it is not difficult to see how it is going to be settled; because I do not suppose that by any particular witchcraft agriculture is to do in the next five years very materially different things from what it has done before. I do not think that in order to support a chance doctrine, which has for the moment bewildered the imagination of otherwise sober observers, or to satisfy them we shall have to sow, hereafter, one thing in order to reap another. And yet how long has this practice of agriculture been going on? So long that nobody really knows the origin of these cultivated plants. It is lost in the darkness of ages. We do not know them in a wild state. They were probably originated with a view of being at once the companions and supporters of man; and so well has that design been carried out that man, in trying to find them, does not recognize them among the wild plants. I take it we have there one of those

indications which prejudices, as it were, the whole result to which I am alluding, by assuring us that what has been the case in former ages will continue to be so ; that an improved agriculture is no more to produce another kind of thing from one kind of seed than has been the case ; and as long as agriculture is not to be so transformed, but only improved, we shall not have from agriculture evidence of the correctness of the Darwinian doctrine ; we shall have no support for this transmutation theory from it, but only a succession of severe blows, which are coming so rapidly that I trust the doctrine will not live much longer. But it lives now, and lives with a tenacity, a vivacity and a pugnacity which are quite remarkable ; and we must meet it with no other spirit than that of trying to know the truth. I hail with delight every new production from that school, because it will run its course quicker. I wish its ablest representatives to come out strong and fast, because it will the sooner have presented its whole strength. And so it is with all excitement—the sooner it comes to a climax the sooner is the fever over.

But, gentlemen, I do not speak with the intention of ridiculing these men and their doings. They have produced remarkable works ; and none so beautiful, none so extensive, none so thorough, as the works of the very head man of the transmutation doctrine. Few naturalists have equal powers with Darwin ; few naturalists are so thorough as he ; few naturalists are more conscientious in their researches. I know him well, and I respect him ; but I believe he is wrong in his interpretations of nature and the facts, and that is the reason why I hope that his followers, who are the exaggerators of what he has done, who, like all extreme sectarians who run into fanaticism, overdo the thing in such a way as to make it ridiculous,—that is the reason why I hope they may be met and silenced. That is just the point where we are ; and as evidence that I am not painting my picture in too strong colors, I will tell you what has lately been published. A German professor, Heakel, who is director of the Museum of the University of Vienna, a thorough naturalist, perfectly conversant with the whole animal kingdom, who has published interesting investigations upon embryological topics, and upon matters connected with comparative anatomy and zoölogy, has within a few months published a work on the distribution of the animal kingdom from four prim-

types. That work is quite recent ; I have not had it more than a week, but I have appropriated its contents as rapidly as I could in order to see what its merit is. I see that he is perfectly conversant with the structure of animals and their relations to one another, and he has taken his knowledge of the affinities of animals—that is, the relation arising from similarity of structure as the test of their genealogical resemblance to one another. I will explain, lest this should be misunderstood. We know the kinds of relations very well. We know what is parentage—the relation derived from the genealogical connection of a succession of individuals—and genealogical trees give us the order of succession of animals approaching very near to the primitive stock ; and genealogical trees are legitimate objects of historical investigation, and the more of them we have that are accurate, the better for our precise knowledge of our relationship to one another in that way. There is no other kind of relation which exists in the animal kingdom or in the vegetable kingdom also ; it is a similarity determined by a community of structural characteristics. For instance : all fishes are related to each other by the nature of their backs, by the nature of their fins, by the nature of their scales ; and so on, by all those structural peculiarities which make fishes to be fishes, and so to belong to one class. So there is an affinity between all birds. The duck, the heron, the sparrow, the parrot, though so widely different from one another, and living in different parts of the world, have an affinity to one another by those traits of structure which constitute the bird a bird—this is, the representative of one class. Now, whence do these traits of affinity come? What is their cause? It is a thing which is a fact ; we have it before us ; and that fact is the primary fact of our scientific research. We have not been able to account for it ; we have no explanation for it, other than that it is a fact founded in the creation or in the nature of these beings. Now the supporters of the transmutation theory tell us, " We know better. We know whence affinity comes. It is the result of a common parentage, of a common descent ; and the parrot and the heron and the goose have an affinity with one another, it is because they are all descended from a common bird-like ancestor, which was neither parrot, nor heron, nor goose, but which was an animal capable of producing these



things in course of time. And if all quadrupeds are related to one another, it is for the same cause ; and if there is a certain relation between men and monkeys and quadrupeds and birds and reptiles, and so on, it is because all these animals have a certain common ancestry." This is the doctrine of that school, and it is by the facility with which they apparently explain everything that they have received the applause of the whole world almost, and that they are now welcomed everywhere as the true expounders of nature, and as giving satisfactory explanations of facts of which the naturalists who have preceded could give no account.

Now, this man Heakel starts from that point : that affinity is evidence of a common descent, and therefore, as he knows the affinities of animals from all his investigations as well as anybody else, he draws a genealogical tree, not only of the whole animal kingdom, but of each class in particular. He tells us which is the primary stock of polyps ; what are the successive kinds of polyps which have descended from the first ; and he says these second have descended from the first in virtue of their resemblance to them ; and that these third have descended from the first, he affirms, on the ground of their great resemblance, affinity being all the way to him the guide by which he builds up his genealogical trees. He has done that, not only for the polyps, but for jelly-fishes, star-fishes, sea-urchins, for all the zoöphytes, for the worms, for the crustacea, for insects, fishes, birds, the mammalia, and for the mammalia through the series, so that he tells us from what kind of animal man is derived ; and his assertion is, that he comes from a monkey-like animal, the remains of which were detected, a certain number of years ago, in *Greece*. This is all very plausible ; and what is there to be said against it ? I would ask. plainly that : What can be said against it ? Here is a man who brings his whole knowledge of science, the whole knowledge of the age, (for it is not his knowledge ; he takes the knowledge of everybody else, as he has a right to do, as a part of his own, because he is one of the representatives of science ;) here is a man, I say, who brings the whole knowledge of the age to his aid, and he tells us, assuming genealogy, assuming affinity, to be derived from common descent, " Here is my genealogical tree—what have you got to say against it ? " And when I first looked at it, I said, " There

nothing to be said. These animals are related so. Our science is transformed like magic by the mere substitution of the word 'affinity' for 'parentage,' and we have got an explanation of everything. You bring down the whole animal creation, from the simplest form, to man, as the head of it, and that is done by external influences merely; there is no factor in the matter."

But then, looking at these genealogical tables critically, I saw there was something to be said. Science tests every statement critically. It is not by talking and crying against a doctrine, that you overturn it, because special pleading can be carried far for a good as well as for a bad cause; and for a bad cause sometimes better than for a good cause; because there is much to be said in order to make it appear plausible. Therefore, special pleading will not do; and I am not going to enter into argument against the transmutation theory, believing it would be of no use. It would neither restrain those who are now in it, nor prevent those who have a tendency that way from going on with it; nor would it correct any false statement. I am going to look at these genealogical trees; and I have already examined them very critically. They represent the natural affinity among animals, and if affinity is the synonymous expression for common descent, they give us the true mode of development, the true successive descent of animals from one another. But zoology is also a branch of human knowledge, a branch which has already ascertained a certain amount of facts, and among these facts stand very prominently those which bear upon the time at which the different types of the animal kingdom and of the vegetable kingdom have been called into existence. We know now that there was a time when there existed no quadrupeds; we know now there was a time when there existed no monkeys: we know there was a time, prior to that, when no animals of a lower type existed; and therefore we know the chronology of the animal kingdom, and of the vegetable kingdom tolerably well, as far as fossil remains—that is, remains of animals and plants, which are buried in the strata forming the crust of our earth—are concerned. As far as they have been ascertained, we know, from the positions which they occupy in the strata, what is their chronology. Understand me, when I speak of their chronology, I do not pretend to say that we know how

many hundreds of thousands of years ago these different kinds of beings lived on the earth ; but we know which is the elder and the younger, which is far more important than the date, which would only burden the memory with an immense number of high figures. If we were to know that the mastodon lived so many hundreds of thousands of years ago, and the thesaurus lived so many millions of years ago, and so on, that would only burden the memory with a load of figures, which would have no great value in reference to anything which should express geological terms ; but if we know that the thesaurus existed before the mastodon, that is a thing easily remembered, and gives us an idea of the sequence of the times when these animals have been called into existence, and have lived upon the earth. And let me say here, that it is a very interesting fact to find that all those families of animals from which man has received his most trusted companions, and the most useful members of the agricultural community, are of recent date. There is not one of them which belong to families that were represented on earth, during the times when coals were formed, or when the Jurassic mountains were accumulating ; neither is there a trace of a plant, which is akin to those from which we derive our grains, our fruits and our wines, before the coals. All these plants are nearly contemporaneous with man, in the history of the earth ; and if there are a few which are somewhat older, their antiquity is not much greater, and all point in that way to the whole plan of creation—to a term bearing upon the coming of humanity, and to the purpose for which man is upon the earth—the progress and development of mind over matter. But let me now return to the statement of Professor Heakel, in reference to the order of succession of animals. I have taken these tables of the order of succession for one class, and for the other, and I have compared the relative dates of the appearance of animals upon the earth, with these genealogical trees. And what do I find ? Geology tells us that the grandchildren are their own ancestors ! That is to say, that what this man, basing his position upon his knowledge of affinities among animals, pretends to be the descent of a certain time, geology knows to have existed long before ; and that those which, according to this doctrine, that affinity is identical with common descent, are of very ancient date, have only come in at a very recent period.

that the whole theory must fall before one critical glance ; the whole is nothing but a combination of anachronisms, out of which a genealogical tree is made.

The audience having been dismissed, Professor AGASSIZ, at the request of several members of the Board, made a few remarks in reference to the general topic on which he had proposed to speak. He said :—

If it is in order, gentlemen, I will state what are the leading topics which it has been my desire to lay before the Board, and which I felt a delicacy in approaching, when I saw that the audience contained ladies. This is the question : The proper relation between the sexes among our domesticated animals, with a view to improving the breeds. While in Brazil, I was surprised at the inferiority of the breeds. There are no pure breeds of any kinds, from the horses down to the dogs ; and there is nothing more disgusting than to see the variety of dogs which are met with all over the empire. So great is the contrast, that I could not but ask myself, what is the cause of this ? Is it a matter of climate, or what is it ? Why are the dogs throughout the whole of that empire so wretchedly mean and degraded, and why is there not a single animal that you would point out as a noble animal, representing in some way the idea that we have of a noble, faithful dog ? Why do you not see such a nature there ? I was very soon satisfied that the cause was to be found in the climate. I saw at once, from the relation of those animals to one another, that there was some other reason ; and I became very early satisfied that the cause of all this mischief, was the reason why the dogs are constantly fighting and tearing one another to pieces, so that you will hardly see one that has all his four legs, was the absolutely unlimited promiscuous intercourse among them. This led me at once to consider the duties of the farmer with reference to retaining what has been obtained, and to improving the breeds. There are very important points that come up in that connection. I will not discuss them now, but I will just submit to your notice some of these points. The first is, the question of castration, which is so universally practiced. Is it not carried to an extreme, which deprives us of a large number of valuable animals, inasmuch as it is made at such an early period that you do not know what animals you

destroy? That is one point. The next is, the first connection of domestic animals with one another. I would introduce the higher principles of morals on the farm. With the view of maintaining the race, do you not restrain the sexual appetites of the young for fear of the mischief which follows? and yet, on your farms, you do not scruple to copulate animals which are too young to be productive in any way. The bulls are used at an age when they should not be allowed to copulate, and so it is with other animals. Now, the question is, at what age should copulation be allowed? Then another thing. The result of castration, as it is carried on, leaves a few males in the community to be the progenitors of the whole stock. What is the consequence? Why, you introduce the system of harems on your farms, and then every male is made to be nothing but a breeding-machine, and by that you vitiate his nature; and the consequence of that, I am told, from the few questions I have been able to put to practical raisers of stock, is already felt in many instances. I believe that it is a great misfortune that there are some few stallions which have such a reputation that no man wants a colt from any other animal but them. You would probably get better stock if this idea of the great superiority of a few individuals was not so prevalent. These are points to be considered: To what extent you can reduce your productive males without endangering the stock; and to what extent you can carry out the system of oriental polygamy on the farm without deteriorating the race.

Then there is one other point to which I would like to call your attention. That is, the effect of the first contact between the sexes. To a breeding female, the character of the first male she receives is a matter of great consequence. The whole succession of her progeny is determined by the first connection she has with a male; and a female which has been badly connected will never produce as fine a breed as one which was well mated at the first start; so that the ideas of the English aristocracy ought to prevail here in order to produce the best results.

But I have already occupied too much of your time. I wished only to point out the topics that I should like to hear discussed at full length, so that the merits of the case should be decided by you. I can only make suggestions from a physiological point of view, as to questions which have presented themselves to me,



the few experiments that I have made upon the subject. Now that in Switzerland, the number of females that are allowed to be covered by one stallion in a year, is not one-third the number that is allowed here.

Then in regard to the surroundings of females, during conception and pregnancy, and their treatment during pregnancy. How many females miscarry, simply in consequence of the influences of their surroundings. And then the production of monstrosities. Why is it that nearly one-third of the dogs that are examined in an early embryonic condition, are monstrosities? Then, how large is the number of monstrosities among cats? That would lead to a very important investigation, but I know more than I know.

Dr. LORING. The question with regard to the time at which females may be used, may find some answer among the Scotch farmers. It is well known that the Scotch farmers devote themselves to one of the most difficult processes of cattle husbandry, the production of milch cows. It is comparatively easy to make an animal that will take on fat easily, but to produce a female animal that has that strong and nice structure necessary for the production of milk, is not so easy a process, and they find that not only in size and shape, but great powers of endurance and a good constitution, are important and necessary. The Scotch farmer who has devoted himself to this purpose, never uses a male until he is three years old, for two reasons: one is, that he thinks the female is not sufficiently developed; and the other is, that he does not know until that time what the quality of his male is. By the adoption of this rule, the Scotch farmer has produced the best nicely organized animal in the world.

Professor AGASSIZ. You see, then, I become well informed on a point about which I know nothing.

On motion of Dr. Loring, it was voted that Cattle Husbandry be the subject for discussion to-morrow morning.

Adjourned.

WEDNESDAY, December 12.

FORENOON SESSION.

The Board met at 9½ o'clock, Mr. T. G. HUNTINGTON, of Hadley, in the chair.

CATTLE HUSBANDRY.

Professor AGASSIZ was called upon to open the discussion upon the topic assigned for consideration this morning, to wit, Cattle Husbandry.

Professor AGASSIZ. I have not much to say upon this subject ; but from the few remarks I made last evening, you may perceive that I wish to have every point discussed bearing upon the breeding of animals in a manner that may be profitable ; and it seems to me that the best way would be, not to take up the subject in all its bearings at once, but to take up one point at a time, so that we may have a specific topic to discuss. If you will permit me, I will begin by submitting the facts I know with reference to one point, and the views I entertain upon that point, and then we may collect the material which we all have upon that question.

The first thing to which I would allude is the relation of the two sexes, and the influence of one upon the other in the offspring, so that we may, if possible, get all the light we have with reference to selecting those individuals from which we want to breed, and those individuals which we are to use as fecundators. Now, there is, in the production of animals, one fact which is, at the very outset, of very great importance. It has reference, not only to the condition of the two parents, but to the condition of the ancestors. No offspring is simply the offspring of its father and mother. It is at the same time the offspring of grandfather and grandmother on both sides ; and, at all events, we can trace in any offspring qualities which are not immediately to be ascribed to the father or mother, but which, in a measure, come always from one or the other of the grandparents. You see, therefore, that the security of desirable animals for breeding which is not extended to the grandparents is no security at all, because the qualities of the grandparent may crop out at any moment. What I say is not a mere matter of theory ; I have experimented upon that point over and over

and I wish that all those who take an interest in this  
er would repeat these experiments, so as to satisfy them-  
s that here is one thing worth considering. I have exper-  
ted upon two species of animals—upon dogs and rabbits.  
ve myself raised at will gray rabbits from white ones ; I  
obtained occasionally black rabbits and white ones again  
st when I pleased. With dogs I have not made so many  
riments, but enough to know that this influence of the  
dparents is one which is constantly returning.

at me point out what are the facts. Suppose you have a  
e rabbit that is not absolutely an Albino ; that is, a white  
it which may have some color in it, or instead of red eyes  
have blue eyes, or a little bit of black on the tips of the

You connect two such rabbits with one another, and one  
her of the offspring will have the color more intensified—  
er eyes, perhaps, or more color in the hair. Now, if you go  
multiplying without selecting your parents, you will continue  
eed, generally, white rabbits ; but suppose that, in the first  
nce, you take a male rabbit that has more color than the  
e, which has black spots over the body, the offspring will  
in a few individuals which will have more color than the  
nt, and perhaps there may be a black one. Now, if you take  
black one and multiply either with his own mother or his  
r, you will get more color into the offspring, and you will  
rn these animals to their primitive gray color very rapidly.  
see that here is the evidence that the character of the male  
so much upon the progeny that you change the whole  
arance of the progeny if there is a marked difference  
een the male and the female. That is the result among  
als about the ancestors of which you have no information.  
ou take animals which are much alike, you continue to have  
ed which is of the same kind. I have never been able to  
e any experiments where the female was changed, because  
is more difficult ; but, by changing the male, you see you  
n a change in the breed.

he next point is to see how the ancestral relation will be  
fested. Suppose you have a female and male which are  
ly different. Take, for instance, a black rabbit with a  
e one. Out of them you get a great variety of tints ; you  
get gray ones ; you may get mottled ones ; you will hardly

get a black one ; you will hardly get a pure white one. But take any one of that breed—I have carried the experiment sometimes to the seventh, eighth, and ninth generations, so that I have got so many facts in that direction that I cannot from memory single out the different cases. Suppose you take from this progeny, derived from a white and black rabbit, a white female, or one which is almost white, and copulate her with another white rabbit, as much like her as possible, you see you come to the first case I have presented, where the two parents are as near like one another as can be ; but this white female being the offspring of a white and a black rabbit, her progeny with another white rabbit will contain some black ones, as unmistakably as can be. That is, there will be a grandchild resembling the grandfather. This is perhaps still more obvious and easily observed among dogs. I have had this case : a shepherd bitch covered by a bull dog. There was a variety of dogs among the young. Now, from the connection of one of them, which was as unlike either of the parents as possibly could be, with another very much like the parent dog, there have come pups that resembled the shepherd and the bull dog, in a striking manner ; again, exhibiting the relation of the grandparents to the progeny of their young. Here, then, is the first guide in reference to breeding—that in order to know the character of the offspring, we should know not only what is the character of the father and mother, but also of the grandparents, as fully as possible.

Then the next thing is, the influence that the first copulation has. It is by no means a matter of indifference which is the first male connected with a female. Unquestionably, that first connection in a measure affects all the future progeny. That is to say, a female that has once been impregnated by a male, will show the effect of that first connection through life, it may be ; but at all events, for so long a time that you cannot get over this first impression. It therefore shows, what I have satisfied myself to be the truth among other animals by numerous experiments : that the act of fecundation is not an act which is limited in its effect, but that it is an act which affects the whole system—the sexual system especially, and in the sexual system, the ovary, in such a manner that the production of eggs from that ovary, to be impregnated hereafter, is so modified by the first act, that later impregnations do not efface that first impres-

Among turtles, I have satisfied myself, that no young is from any turtle, until the female, during four successive years, has been fecundated eight times; and it is the eighth copulation or eighth copulation which secures the first laying egg. A turtle, our little fresh-water turtle, is generally years old before it copulates for the first time, and it is in the seventh year that they lay, generally, their first egg; and at that time, they have copulated twice a year, and each copulation has produced a marked change in the egg. The eggs change so much in the ovary of the turtle, that you can trace the effects of these successive copulations, year after year. I know this very well, when examining a turtle, which of her eggs will be laid this year, which next year, and which the third year; and it is as easy as possible. If you open the first female turtle you see in the spring, you will find that there are from five to seven eggs, about the size of a bullet, that there are a certain number about the size of a pea, five, six or seven that are as large as a good-sized pin's head, and the rest so small that they can hardly distinguish them. There you have marked out the successive eggs which are going to be laid. These eggs are in their situation, the difference, and it is plain from that, that it takes these successive years, each year accompanied by a copulation, before any egg is laid. Now, there are animals which are at once fecundated, in which the egg, or a certain number of eggs, are at once brought to development and laid; but that does not shut out this additional fact, that the other eggs, which are not then ripe for development, are influenced; they are influenced in a marked degree. Here come in the particular facts which are familiar to you all, but some of which I have obtained from direct experiment. Suppose a bitch covered by a bull dog—part of the offspring will be like her, and part like the father. Suppose the next litter is derived from a greyhound; that second litter, where no bull dog had any part in the fecundation, will contain bull dogs, and always in a certain proportion; showing that the first impregnation of that bitch by a bull dog, produced an effect to be seen in the second generation, when the male parent of that second litter was an animal of a totally different character. You see, therefore, how important it must be, if these facts obtain throughout the whole animal kingdom, that the male used in the first copulation of an



animal, be of a good and desirable stock, of such stock as you would like to have in the progeny of your breeding animals. I have been told that mares which have been copulated with donkeys at first, never breed afterwards good colts ; that there is always something of the mule coming from the progeny of a mare that has had at first a donkey, and not a stallion.

Now, without going on to the other topics to which I would call your attention afterwards, I think we may limit ourselves at present to the subject of fecundation—to the effects of fecundation and the character of fecundation—and then pass to the consideration of the phenomena of sterility and to the effects of sterility. In our way of breeding, when we castrate so large a number of males, and when we keep so large a number of females which are never allowed to breed, what have we, in reality ? What is the stock of horses with us ? Castrated males and non-producing females. What is the character of our horse stock ? I ask you, gentlemen, whether the vices of your horses are not in great measure to be ascribed to that fact ? I do not know. It is for you to experiment upon. But it is a fact, that you raise, as the stock of horses to be used by the community, castrated males and unfertile females ; and that fact is to be looked into, and it is to be considered whether that is as it should be and the best that can be.

Mr. PERKINS. There are two other points that might be considered in this connection. One is, in what way shall we be most likely to fix the sex of the offspring ? I will give a little of my experience and of my observation. In one case I took four ewes some twenty-five miles to a French merino buck, hoping I should get one or two lambs fit to use. The buck was old and dull, and when my ewes came in in the spring, I got four ewe lambs and no bucks. The ewes were fleshy and vigorous. Mr. Birnie, of Springfield, had a four-year old Ayrshire bull, which had become dull and stupid, and his calves were almost universally heifer calves. The bull became so stupid that he was fatted and butchered, and Mr. Birnie used a young and vigorous yearling bull. He was after heifer calves, but to his surprise he found his calves were all bull calves. The bull was a vigorous, active bull, and did not need any coaxing or delay. I mention these facts with reference to the point of fixing the sex.

w, the question in relation to how far the male parent affects the nature and structure of the animal, and how far the female affects them, is illustrated to some extent by the connection between the jackass tribe and the horse tribe. In mating two together to produce offspring, if we mate the horse with a female, we have what is called the jinney; if we mate the male with a mare, we have what is called a mule. Well, what are these distinctive traits, and are they universal. If we mate a jackass with a mare, we get an animal that has the ears and mane and tail and bray of the jackass, universally; if we mate a horse with a jill, we have a mane and tail and ears more like the horse tribe, and we have the voice of a horse, almost universally; and in the mule we have the bray of the jackass. Now, it would seem to show—and I believe it is somewhat conceded by horse-men—that the horse fixes the limb qualities of the offspring. That is, if you use a horse that is sound in all his limbs, that has a peculiar gait, the gait of the offspring is more likely to partake of the character of that of the horse than of the mare; and if the horse has any defect, such as interfering, or any limb defect, the offspring is more likely to take those defects from the horse than from the mare.

Professor CHADBOURNE. I think we have a perfect right, if Professor Agassiz is here, (and I hope he will recognize my right,) to get from him all we can; and therefore I hope he will pardon me for asking a few questions which I have had asked to me from time to time, and which I know he is abundantly able to answer, because he has made this subject a specialty, and I feel that we shall gain as much profit by drawing out as we could in any other way.

The question that has come to my mind is in reference to the effect of the injury of animals upon reproduction. I would like to know if he has any information in regard to that. For instance, if a male has received any particular injury, and suffered from it—say to its limbs or its horns—what effect has that upon the offspring?

Professor AGASSIZ. I know nothing whatsoever upon that subject. I have never had an opportunity to watch a case where either the male or the female of the parents had any particular defect. I have no particular information upon it—only a general impression. With regard to the point on which Mr. Perkins has

touched—as to what the male and female may likely give to the offspring—that is a matter which is still vague ; and when Professor Chadbourne takes charge of the college, I hope he will keep a large stock of animals, and constantly experiment.

PROFESSOR CHADBOURNE. I have seen some things in the human species, that may bear upon the question I have suggested. I know one man, who, when a boy, had his nose broken and very badly injured. I suppose you would say, that that was such an accidental thing, that it could have no effect upon the offspring ; but it is a fact, that three of his children were born with noses broken and twisted, exactly as his was. That may have been all accidental, but I state it as a fact.

Now another point, which has a special bearing upon what the Professor has been saying, in reference to the effect of grandparents. I have attended a course of clynical lectures at the college, and one day two young men were brought into the clynic, each of whom, had six toes upon his feet. Their feet were exactly alike, as far as you could see, and there was a toe growing out on the side of the foot, so that they had to wear very wide boots ; and they were brought there for the purpose of having them removed. I made inquiries as to their parents, and I found that they were not brothers, but cousins ; one was the son of a man whose sister was the mother of the other. The brother had a son, who had this toe growing out of the side of the foot, and the sister had a child, with a toe growing out of the side of the foot. Neither of the parents had it, but it was a characteristic of the grandparents, and appeared in the family long before. It struck me as a very remarkable fact. Here was a man without this characteristic, who had begotten a child with it ; and here was a woman without it, who had produced a child with it ; so that the feet of the two boys looked exactly alike.

DR. LORING. I desire to discuss this question a little, not because I can say anything particularly new, or can throw any particular light upon the matter, which is not already in the minds of the Board ; but because I am desirous of doing my duty, and saying anything that can possibly be said upon the question before the Board, to elicit any new facts of importance from others.

The subject of cattle husbandry has been introduced this morning with special reference, so far as I have been able to perceive since I came into the hall, to the question of breeding. It seems to me, that situated as we are in New England, that the business of cattle husbandry is really of primary importance. It is important everywhere, but it is especially important in all countries where the business of farming is confined to a narrow sphere, and requires the application of the rules of agriculture. The raising of cattle in the West, is a common-place thing; they grow there readily, spontaneously, especially on the pastures of the South-West, and Texas and Ohio. In some parts of Southern Ohio, and Southern Illinois, the raising of cattle is as easy as that of the black walnut, or any large growing tree; so that any keen observer, coming here from England, where the business of raising Shorthorns is carried on with the utmost care and without regard to rule, will find better cattle, perhaps, running out of doors in Illinois, without any special regard to male and female, than he would find in the best breeding-stables in England. That is not the case here. Whatever we get in New England, we are obliged to get by hard knocks—by the virtue of study, and care, and brain work, and all that; so that the foundation of the business of cattle husbandry in New England is the breeding of cattle, and the careful breeding, too. It is a remarkable fact, that the raising of cattle in New England, for the mere purpose of farm work or meat, and without any sort of reference to the dairy, as a specific object, is not a profitable business. There is not a section of New England that is so far removed from a market that it is impossible to send the cheapest products immediately to a good market; so that grain can be transported from the spot where it is raised, anywhere in New England, so readily to market, that it is worth almost as much on the spot where it is raised as it is in the market where it is sold. That is not the case with grain raised at the West, of course, where corn is worth not much more than it will bring for fuel, simply because the railroads, instead of being an avenue, are almost a barrier between the grain and the market. It is doubtful, therefore, whether we can raise grain here and feed it to cattle at a profit. We can raise it for men and feed it profitably, but whether for beef and pork, I doubt. So with hay. There is hardly a spot in New England in which hay is

not profitable to sell, and so easily got to market that it is worth almost as much (not quite, it is true,) in the barn of any farmer as when brought into market. Hay in Maine and Western Massachusetts is not worth \$35 or \$40 a ton ; but it is worth so much as to make it more profitable to sell it than feed it ; so that the business of cattle husbandry is made an expensive business, not a cheap business, here ; and were it not that the animal produces all that vitalizes and fertilizes the farm, no man, except for his own personal family use, would ever think of keeping a cow or an ox. That is one of the luxuries ; it is a part of the æsthetics of farming ; it is a thing the farmer likes ; but so far as the making of money from cattle produced for the general purposes of the market is concerned, there is no profit in it. You can raise fine animals here—good cows for the dairy ; and when you are breeding any cow for the dairy, it is a good plan to breed a cow for that purpose combining some other qualities that will make her useful for the shambles when her business of the dairy is over. But she must be so organized that she will produce a substance for the market from her own system that will pay for what she consumes better than the production of beef would pay. The dairy does that. But there is a higher business still for the New England farmer, and that is the production of choice animals for the improvement of the breeds of animals in other sections of the country. That is a business to which the New England farmer can apply himself with great care and great profit, and to which he has applied himself with great success. I will illustrate. There have been bred in New England, in a climate not particularly adapted to the development of Shorthorns, for instance, some of the best breeding animals of the Shorthorn variety or kind that can possibly be conceived of ; animals better than you generally find in Kentucky ; animals as good as the best importers—Mr. Thorne, Colonel Morris, and others—have ever imported or ever bred in their stables ; and the profit of those animals in times past has been twofold. One was, when hay and grain were cheaper, the production of fine working oxen and large-sized cows in some of our rich pastures, like some of the hills of Berkshire, portions of Worcester County and the Connecticut Valley ; and the other was the production of good animals to send into regions better adapted to their use. Now the New England farmer can do that to perfec-



I spoke of the Shorthorn, because that is less adapted to New England climate and soil than any other animal I know. I do not know an animal, in the whole range of the animal economy of the farm, that is really less adapted, as a thoroughbred animal, with all his improved points, to New England climate, New England winters and New England soil, than the Shorthorn. I use him as an illustration on that account.

The New England farmer has produced this entirely artificial animal here by care and judicious breeding, not only with benefit to himself, but also with benefit to those outside of New England.

As to our horses. I have often said that we have done more to improve the breed of horses by the introduction of New England bred horses into the horse family of the United States than any other people on the earth. The horses of New England have their peculiarities and characteristics, the result of the peculiar climate in which they live, the peculiarly rich, sweet pastures over which they roam, the cold spring water which they drink, and the geological condition of the soil on which they grow, all tending, not to make a large, heavy, flabby sort of animal, but a sharp, hard, clean-boned, wiry animal; and the constitutional vigor of that animal bred here in New England, I say, has done more to improve the quality of horses in America than the introduction of any foreign blood, so far as I know of; so that every man who comes from Kentucky, north, or from Ohio or Pennsylvania, east, in search of a horse that will improve the breeds of horses in his own section, gets what is known practically as a New England horse, and that is what would be known specifically as a Morgan horse, bred in Vermont and improved there. I say, then, in this business of raising horses, we have been enabled, by the advantages of our climate, with care and intelligence, to produce a breeding animal of the horse kind here, which is valuable to ourselves, and almost invaluable to those who would improve the stock of horses outside of New England.

The same thing holds good with regard to sheep. It is an extraordinary fact, that here in New England we can raise what have always said, and say still, is the *American* sheep; call it "*improved American sheep*," if you have a mind to, and though at it; call it the "*improved American merino*," if you

want to, and laugh at it ; call it " a pile of grease," if you want to, and laugh at that ; but there is no question that here in New England, under the influence of our climate and our soil, and with the application of the care and intelligence of the New England farmer, we can produce a sheep which combines more of the qualities of a good mutton-growing and wool-growing animal than any other sheep in the world, and nobody can gainsay it ; and if you raise fifty pounds of wool upon the back of one animal, and when you come to wash it it is reduced down to seven, you can still see that that is the best and most profitable sheep for New England and for America. He has a hardy, solid frame, not maturing rapidly, so that the farmer is obliged to fatten him from infancy up ; capable of enduring hardship and of being reduced in flesh at a year old and brought up again like a Devon or an Ayrshire ; a prim, hardy animal, better adapted to improve sheep-husbandry than any other that I know ; vastly better than any sheep bred upon the fat pastures of England or raised in the warm stalls of New England. You cannot raise them everywhere. You can do it in New England and New York. But you cannot take these sheep to Texas or Brazil and keep them up to their standard. The climate, the soil, the grass, the water, the feed, the general influences, all tend to make that animal a little softer in all his texture and fibre ; his wool is set with less compactness, and when you put it into the card it does not work so well ; so that at last a New England manufacturer has been honest and fair enough to say that the wool grown upon sheep in other countries does not compare for one moment with the fibre raised here in New England and the Northern and North-Western States ; that is, from sheep descended directly from the " improved American merino," bred and improved here in New England. There is no doubt about that ; so that all the mestizo wools, that fly about the cards like the down of a thistle, almost, are absolutely held together by what is sneeringly called " the grease of the improved American merino." This we can do here in New England, the fountain of that sheep blood which is to keep the rivers of wool flowing and in good condition in the United States. I say, this we can do here in New England. It requires care, it gets care, and it repays.

ow, all these classes of animals to which I have alluded, of which are not adapted to New England and some of which are, it is profitable to breed here, if the New Englanders will apply themselves to the business of breeding, as the Irish and Scotch farmers apply themselves to breeding the animals they can conceive of on the island of Great Britain. And them for the purpose of producing the best animal; the market is always open to them, and there is no limit in this country to the demand for good Ayrshires, or good Shorthorns, or good Jerseys, scarce as they are, or good merino sheep, or good horses; so that cattle husbandry in New England is really, when carried on in its most improved way, cattle breeding. Of course, the feeding of animals goes with it, because you cannot do well unless you feed well. A part of the great business of the improvement of any animals is the mode of feeding from day to day, generation after generation; but breeding is the business out of which the New England farmer can make his profits. Then, when the long, cold winter comes, he need not be disturbed for fear that the cattle he is feeding in his stalls will not pay him in the spring, because he knows perfectly well that every pound he puts upon them will be more than paid for, by their value, pound for pound, but by their quality as breeding animals.

Now, this has brought me to the point upon which this debate has been opened. There is no question that the whole business of breeding is one which requires the utmost care, the keenest and closest observation, and a sort of instinctive knowledge of the *physique* and *morale* of the animal—an intimate acquaintance, a sort of secret association, which no man can get who does not devote himself to the business and sharpen his mind to the work before him. You all know that under adverse circumstances—starvation accompanied with cold and ignorance—the human race will degenerate as rapidly as any of the field crops of the farm will degenerate under bad cultivation. This is evident enough. So that there are unquestionably families of men—I will not say races, but families of men—almost all kinds of men; who, under adverse circumstances, social, civil, political, have degenerated, until at last they have reached a point which is below that of a sharp, quick, clear, intelligent people. The downfall of the human race from a point of civili-

zation into degradation is one of the most astonishing facts in all human history ; for it is an undoubted fact that the Hottentot in his natural condition, the American Indian in his natural condition, is better, as a type of man, than some of the fallen races of men, who have not kept themselves up to the standard of morality, intelligence and social and civil elevation. Now, the same rule that applies to man, applies to animals with yet greater force. Man has a defiant and powerful intellect which will enable him to resist outward circumstances. There is no question about it. Man is not a mere machine alone. He defies disease ; he sustains and supports his life ; he keeps himself in good physical condition, often, by the defiant powers of his will or his intellect alone, so that the old saying of an able man that he had no time to be sick, is perfectly and literally true. Animals have nothing of this kind to help them through their trials—nothing. They grow upon the land the servants of man, and under his hand are as plastic, almost, as clay in the hands of the potter ; and let no man suppose that he can subject the sensitive and carefully bred animals upon his farm to bad treatment and bad food, and have a race which will compensate him for breeding, any more than you could blow up the schools, churches, bibles and good government among any people, and expect them to maintain themselves in their position as part of the human family. It is impossible. All the animals upon the farm, governed as they are entirely by their instincts, guided as they continually are by the superior ability of man, wholly subservient to him, dependent entirely upon him for all they eat and all they drink, and for their daily comfort and condition—these animals require all the kindness and care and regularity of feeding that can possibly be bestowed upon them ; and when they receive that, if they have been bred in accordance with those rules which should guide an intelligent farmer in breeding, they will always carry the marks of that kind treatment upon them, from the expression of their countenances to the graceful hanging of their tails. From one end to the other, that elegant, fair, graceful, good bearing, which an animal has that is taken care of by a kind-hearted and intelligent man, tells the whole story of the way in which man can elevate the whole animal kingdom up to his uses and to his wants. I say, therefore, let no man expect that he can play the brute among his animals,

and at the same time raise either himself or his animals up to the standard of good agriculture. It cannot be done.

This, sir, is the *morale* of breeding, and lies at the foundation of the whole thing. Once having made up your minds that you are equal to being lords of the animal kingdom, once having established the fact in your own superior consciousness that you are competent to do that business, then you can apply yourselves to the selection of animals for the purposes of breeding, and apply yourselves to the business of procreating those animals, and increasing them upon your farms. How is that to be done? I have no doubt I shall repeat what I have said before; I have no doubt I shall be obliged to repeat what has been said this morning; but if I am taking up the time that others desire to occupy, I will stop in a moment. This matter of selecting animals is the first point. I insist upon it, that no animal should be selected as a breeding animal, which has either sustained an injury himself, or whose ancestors have sustained such grave injury that he bears upon himself the slightest mark of it; because it is perfectly apparent that the inheritance of acquired faculties is almost as certain as the inheritance of natural faculties. I do not mean to say that this is a positive rule, but I say that it comes so near being a positive rule that every close observer of animals, every close observer of man, knows that it is as near a rule as you can get. I have not a multitude of facts to sustain the idea that a simple injury would damage a breeding animal, but I do know that certain mutilations will be transmitted, sometimes not to the damage of the offspring. How is it that the best family of Ayrshire cattle which I myself have ever undertaken to breed, descended from a bull acknowledged to be in many respects, and almost in all respects, the best Ayrshire bull ever brought into this country—how is it, that that whole family of animals carry the mark of their parentage upon the ends of their ears? The ear of an animal of the bovine species, is generally as evenly rounded as the top of an arch; but here is a whole family of animals, the ends of whose ears are either square or scolloped; or clipped, precisely as you see them scolloped or clipped, when they are sent from the farm into the hill pastures of Scotland or England. Where did they get this? It certainly is not natural. That peculiar characteristic of the ears of these animals must have been caused, not by one clipping,



perhaps, but by generations of clipping. How far that establishes the rule, I will not undertake to say ; but it does fix it so much in my mind, that, as a practical breeder, I should avoid breeding from an animal that had any defect caused by an injury. I agree that it is a matter of nice science to tell whether the rule is a fixed one, or not. I do not mean to say that it is ; but as a practical breeder, I should avoid such marks. For instance, if there is anything in the world that I detest and abominate, it is what is called a drooping rump, in any thing, unless it is a French trotting horse. A kanuck horse, that can trot his mile in 2.40, and then has ended his business, may possibly carry a sloping rump—if he wants to do it. It is not an evidence of good breeding, decency, or anything else, and that is the only animal I will forgive it in ; and I would not forgive it in him, but for the speed he can get up now and then. But if there is anything that is admirable to the eye of a man who is fond of cattle, it is a straight, true, level rump. I don't know why it is : whether it is because he knows that the nice pieces lie there somewhere, or because it is a graceful thing to see ; but so it is. You do not see it in pictures. You do not see well-bred animals in pictures ; they are not in accordance with nature. It is the art of man that has made the animal good-looking. Now, there is nothing to which our cows are more liable, when covered by heavy bulls, than to get broken down. The tail is not very strong, and is easily crushed down upon the pelvis. I have no question, then, that a breeder might produce, from a straight-rumped family of animals on his farm, a set of animals whose rumps were sloping and broken down, if he allowed his cows to be broken down in that way by heavy bulls. I do not mean to assert, as a fact, that it would be so, but I would avoid it, just exactly as I would avoid the selection of ears of corn from my corn-field, that came from defective hills, or had defects themselves. So, too, I would be particularly careful about animals that had injuries upon them. With regard to natural defects, every man knows that they must be avoided. It is hardly worth while to discuss that matter. A crooked foreleg in a bull will be very likely to make its appearance in his offspring, and everybody knows that if there is anything that will annoy a farmer, it is crooked-legged, knocked-kneed cattle. If I had a knock-kneed bull, I should expect to

have a family of knock-kneed animals. So of feeble hocks. If I had a stallion, whose foot was out of order, I should expect the feet of his colt would be a little disposed to get out of order. If I had an animal with such defective lungs that he was short-winded, I should expect his progeny to be short-winded. If I had an animal with a delicate stomach, I should expect his progeny to have delicate stomachs;—just exactly as, in the human family, we know that we sometimes get from our ancestors, diseases and defects. It is hardly worth while to discuss that point. So, while I would avoid animals that have defects from injury, I would also avoid those that have natural defects; and when I came to the selection of animals to breed, avoid all accidental and all natural defects. What then? Here is a bull with a straight rump, high head, even shoulders, deep through his heart, his offal properly balanced, and his quarters very large—is he a good breeder? There comes the question. And that is where the man is obliged to get underneath the hide of the animal, inside of his brains, and find out, as Professor Agassiz has just whispered to me so significantly, his *temperament*. Why, animals have their moral sense, and their intellectual sense, and their sentiments, just as much as we have, and there is just as much difference between the calm, sagacious, well-behaved, prudent stallion or bull, and one that is constantly quarrelling, fighting, tormenting and destroying the temper of the mothers of the flock,—a mere pest of the herd,—as much difference as there is between the man who sets a good example to mankind, and one who sets a bad example to mankind. So that a breeder, in selecting a male animal for the purposes of breeding horses, or cattle, or what not, must be able to understand, by a sort of intuition, what the temperament of his animal is—especially the male, because it is through the male that the great improvement comes. Always, the females are the subservient; it is they who do the work, and the male secures the increase, in reality, and produces his stamp.

Now, after having, as I say, selected the animal of the form which you like, the next thing is to select the animal of the temperament that you like. The temperament which one breed of animals should have, is exactly the temperament that another breed, or another kind, or another species, should have. For instance: It is just as necessary that an ox should be sagacious

—it is just as necessary that a cow should be quiet, and strong, and calm, and prudent, and well-behaved—as it is that a horse should be. Every man, whether he keeps one cow or fifty cows, knows that what he wants, particularly for a good dairy cow, is a placid temper. There never was such a thing as an irritable, and at the same time a valuable, dairy cow. The two things do not go together. So then you must, in breeding animals of the bovine species, select that calm temperament; for when you come down to the matter in hand, having secured the shape that I spoke of, it is the animal that is well organized in this way that is a good worker, docile, easily trained, and patient. It is the animal of the kind of which I have spoken that performs her part well in the dairy; it is the animal of the kind of which I have spoken that breeds well and transmits good qualities to his descendants. And when you pass from the horned cattle on your farm, and go to your horses, every man knows that there are just as distinctive qualities in families of horses as in families of men. You can go into any part of New England, and you will find that there have been certain stallions which have produced good driving, patient horses, with no vices about them. They do not kick; they do not bite; they are not opposed to work; they are ready to go about their business at any time; and every horse-purchaser goes right to that spot to see if he can get an animal of that family. On the other hand, you find families of horses entirely different; and in all the animals that we undertake to breed upon our farms, we find the defects of which I have spoken. Now you can create a bad temperament, if you like. There is no question about that at all. A team of oxen will always tell the story of the driver. You need not look at the driver. He may be in a grog-shop, for aught I care, taking his eleven o'clock, or hid under his wagon eating his economical bread and cheese; look at his team, and the team will tell the story of the driver almost always. See that stately, high-headed, patient-looking team—*confident-looking*—(that is the word; how it expresses the appearance of a good ox-team!)—four or six, attached to a heavy load. They stand waiting, *confident-looking*, knowing that there is nothing between them and their destination except the length of the way. Now, it is the man who, having selected his team, imparts to them that confidence. He never despairs, and they never despair; he never frets, and they

never fret ; he never gets irritated, and they never get irritated ; he marches on, and they march on. Just exactly as it was said in old times : “ I would rather have an army of stags with a lion for a leader, than an army of lions with a stag for a leader.” Take the best team of cattle you can conceive of, shaped all right, measuring right, weighing right, and in proper condition, out of the hands of such a teamster as I have spoken of, and put them into the hands of a man of the opposite characteristics, and you will find that your team will partake of the character of the man. And it is exactly so with breeding animals. A patient, good-tempered, intelligent, well-behaved stallion is put into a stable, and is approached with a club, and muzzled, and sworn at, and frightened ; and, when brought out to cover a mare, if he fails to make a noise, and break down the fence, and tear up the earth, he is put down as a dull, stupid fellow, not fit for the purpose of breeding, and is irritated, pounded and lashed into this excited state simply that he may be a *gallant* stallion ! The old song says : “ There was General Washington, upon a *strapping* stallion ;” and it seems to me that is about the best expression I ever heard to describe what some men seem to value most in a horse. A breeder who undertakes, as they say, to keep a “ stud horse,” must have a “ *strapping* stallion ;” and he keeps his “ *strapping* stallion” up to this mark ; and for a time he will cover up all the defects of the animal—his miserable shoulder, his round fore leg, his feeble stifles, inefficient back, and shocking tail, by the exhibition of the power that he has to convert him, before all mares and all observers, into a “ *strapping* stallion.” What sort of condition and temper is that horse in for the purposes of breeding ? What state of mind is he in to go about his business ? What sort of temper do you expect he is going to transmit to his posterity ? Why, if he were let alone he might do a decent thing ; if he were allowed to preserve his equilibrium he might possibly be tolerable ; but in the state of irritation he is in, he not only transmits his weak organization to his posterity, but he also transmits the acquired honors of his disposition—that intellectual condition which has been impressed upon him by the man who does not know how to take care of him. In this whole matter of temperament, it is the man who rules and controls the animals. He can transmit to the creatures he produces on his farm his own placid soul if he likes.

I think that the most admirable sight in the world, next to that of a general leading his army to battle, is that of one breeder whom I can select in New England, who has raised a breed of animals from a low stage to a high one. His flocks know him as their protector and benefactor; and when he goes in among them with his long white wand, all he has to do is to indicate by that wand to a particular sheep that she is wanted, and she obeys. There is no confusion; there is no trouble. It is like a school under the control of a humane teacher, who does not whip his boys nor his girls either, and testifies to the influence which the character of a man has over all that comes beneath his rule. If you want to see a sight which will impress you, and teach you what you may be yourselves, as controllers of the animal kingdom, go with me into the sheep-pens of Edward Hammond, of Vermont, and there you will see what I have described. I have never seen anything finer, more beautiful, more admirable, more significant, of the power of the human race over the animal kingdom than what I have seen there. Now, I say that we, as intelligent farmers—not prairie farmers, not farmers chasing our cattle over the pampas armed with spears and the lasso, but men who have subdued the animal kingdom, and have at last brought the mind and will of the animals (or propose to do so) under our own control—as men engaged in this business, I say, we are bound, if we expect to be good breeders of cattle, to preserve our equanimity among our flocks and herds; and if we do, they will manifest the same temper in all their dealings with us.

Professor Agassiz alluded to the effect of the first impregnation upon female animals. I was glad to hear him speak of that, and I hope that, as long as he is a member of the Board, or in any capacity a teacher of the farmers of New England, he will continue to reiterate it. It is the prime and fundamental rule of breeding, that the seed which you are to plant, for the purpose of bringing forth certain fruit, should be planted upon a virgin soil; not upon a soil that has previously been contaminated by foul seed of any description. Every man who has observed his flocks and herds, well knows that the influence, whether it is a physical or a moral influence, of a low-bred male used for the impregnation of a female of good blood, and kept for certain breeding purposes, is always disastrous, and cannot



be otherwise. Therefore, if you expect to do anything to improve the character of New England stock, as members of Agricultural Societies, never offer another premium, for a bull that is not of some pure blood of a certain breed. All this talk about "native cattle" is the merest prejudice; it does not amount to anything. The native cattle, are no cattle at all. They are just like the dogs the Professor spoke of last night, as running in the streets of Brazil—irritable, half-bred, half-fed, all sorts of shapes, no uniformity, no fitness for any one of the objects of the farmer. If you are going to pay premiums for male animals of that description, you might just as well pay premiums for the poorest crop of corn, wheat, or hay. I should as soon think of offering a premium to the man who would reduce wheat down to its natural condition, prior to its being wheat (if there ever was such a condition,) or corn down to its condition before it was corn, as of offering a premium for a male animal of what is called the native breed. There is no sort of propriety in such a thing. I would therefore insist upon it, that every premium offered for male animals should be offered for good animals of some specific breed.

Mr. Smith says, "I forget Mr. Anderson's stock." I do not forget it. I want to ask if he got his fine stock with runt bulls or grade bulls? I want to know if he started out from the hills of Shelburne and went down into the Connecticut Valley and purchased an animal whose pedigree he did not know well? And has he not boasted that since he has begun to breed he has always kept in his stalls a bull of unquestioned pedigree, which had been bred so long and so well that all good judges of cattle in that neighborhood knew what kind of animals he would produce? Why, the great secret of Mr. Anderson's success is, that he has rejected the grade bulls, and has continued to breed up to a standard by the use of a pure breed of bulls. I am now talking about male animals kept for breeding, and about the way to improve your cattle and secure good animals of a pure and distinct breed; and you may all land exactly where the Messrs. Anderson have landed, with good herds of cattle, of certain descriptions, bred up to the standard, by the use of a good, pure breed of bulls. I trust, therefore, that in the selection of animals, and in the offering of premiums by societies,

special regard will be had to animals of certain specific breeds, that have their pedigrees well authenticated.

It is unnecessary, I think, for me to allude to the matter of feeding. I hope that the discussion upon the question of breeding will be continued, and that the farmers present will give their experience in these matters. So far as the business of feeding is concerned, it naturally belongs to the business of farming, just exactly as much as the manuring of land belongs to the raising of a crop. Every farmer knows perfectly well that it is good hay, good pasturage, good roots and good grain, that make the animal; and the most judicious and economical modes of introducing that nutrition into the stomachs of your various animals have been so often discussed, and are so well understood by most farmers, that I have no desire to enter upon it here.

Professor AGASSIZ. There is one point in the selection of breeding animals which has not been touched upon, which I believe is of great consequence, and that is *color*. The color of an animal is always associated with certain definite qualities; and I should assume, from what I know of the lower classes of mammalia, that the rule would obtain also among the higher ones, or among those which are of higher value on the farm. For instance, animals that are entirely white have uniformly weak eyes—bad sight; at least, that is the case among rabbits. All those that are purely white have such weak eyes that they are almost blind. I suppose that is an indication that we must avoid a light color. It is a kind of bleaching of those darker tints which are connected with the qualities of the blood, and I think, therefore, indicates a certain feebleness of the system, which it is not desirable to propagate. I should like to know the experience of farmers in regard to white cattle, white bulls, and the like, and whether they have similar peculiarities of constitution to those that I have noticed among rabbits.

Then, again, a very dark color—perfect black, for instance—indicates a predisposition towards another kind of indisposition, which is well known among those interested in the study of disease as amaurosis; and that kind of indisposition is certainly also noticeable among black rabbits. How is it with thoroughly black horses which have very dark eyes? I do not know enough of that description of cattle to have a definite opinion, but I

have no doubt that it is a point to be taken into consideration. I am satisfied that the best animal for breeding will be found to be that which approaches most nearly to the primitive, natural color of the animal. Now what is the natural color of a horse? I do not know. The wild horses, in their primitive condition, are not known with certainty; but we have a great many species of that genus which are known as wild. We know several kinds of wild donkeys, the wild horse of Africa, the zebra, &c. They are either gray, or, sometimes, a brownish gray, or they are fox color mixed with gray. These are the natural tints, and therefore I would say that the grayish-brown horses are those which approach the primitive color of the species most nearly, and that would probably be the best color for animals to be used for breeding purposes. But that is merely theoretical, I should like to learn from the practical farmers here present what has been their experience with reference to this point, and also to the point I have previously touched upon—the influence of the male upon the progeny.

Mr. STEDMAN. I can speak with reference to the last question which the gentleman asks—the influence of color upon cattle. I have been a breeder of Shorthorns. Some of the best of these cattle are entirely white, and I have never discovered any weakness about their eyes. I think if there is any difference, it is in their favor, as kindly feeders. But it is a color we do not desire. It is not fashionable, and we avoid it as much as possible. It is said by those who are the best authority, that no Shorthorn exists without some white. I thought, when that fact was first mentioned to me, that I knew exceptions; but on examining those which I supposed to be purely red, I found about them some parts more or less white.

With regard to the influence of the first impregnation, I have no doubt that it has an important bearing upon the progeny. I have known some of the best bred animals that were thus contaminated. They showed it distinctly in their future offspring. And here I will state one fact which the Professor has not mentioned. The effect does not always crop out sensibly; we do not always see it. A Shorthorn cow, which has thus been contaminated, may, after being delivered of that impregnation, produce several apparently well-bred Shorthorn calves; but eventually, she will have one in which the evidence of that first

impregnation will unquestionably crop out, in the long branching horns. I have one case in mind of a magnificent Shorthorn heifer, that was thus accidentally impregnated, and after bringing several calves that showed no evidence of contamination, brought one and then another, in which the effect of that first impregnation was clearly shown.

I think we are in danger of receiving a wrong impression from one remark which Dr. Loring made, with regard to the cattle of the West—that an English breeder would find there, cattle superior to those at home. The doctor did not say but what they were indigenous to that country; but I suppose the fact to be that they were carried there. It is the blooded English cattle that have been carried there at different times from the year 1817, to the present time, that have produced the style of cattle found there, and which we are endeavoring to produce among our herds here.

Dr. LORING. Mr. Stedman will remember that when I made that remark, I was speaking particularly of Shorthorns. I made those remarks under the "Shorthorn" head of my discourse. It was with particular reference to the Shorthorn, and I stated that he was not exactly the animal best adapted to New England, but was particularly adapted to the West. I remember very well, that shortly after Judge Douglas came home from England, (and he was a very close observer of everything that came under his eye,) he said to me: "I saw a great many herds of Shorthorn cattle in England. I was interested in looking about among the farms, and I can find a much better general average of Shorthorns in Illinois than I can in England." And then he remarked that it was evident that the pastures and climate of Illinois and Ohio were particularly adapted to this breed of animals. It was with reference particularly to Shorthorns that I spoke; and I am perfectly cognizant of the fact that it is the introduction of Shorthorn blood into the Western country that has made the raising of beef there not only practicable but highly profitable. Shorthorn blood has done that thing.

Mr. SMITH. I alluded to Mr. Anderson's stock while Dr. Loring was speaking, not because I did not think he respected that stock, but because of his remark that he thought we ought not to offer premiums for grade bulls and grade stock. We

have offered premiums for grade bulls and grade stock, with special reference to Mr. Anderson's stock ; because, if we did not, he would be debarred from competing for our premiums.

I cannot answer Professor Agassiz's question with regard to color, but I can ask another, which is always easier than to answer. I would inquire if the color of cattle affects the beef or the dressing of the beef. I am acquainted with a gentleman who has been in the beef business for sixty years, and he is very much prejudiced against white cattle. He prefers red or black, or any color to white. He says they never dress well ; and I notice, that in Mr. Robinson's report in the "Tribune," of the prices of beef, he makes this remark frequently—"country red commands a larger price than any other beef." If, then, the color of cattle is going to affect the price of the beef, it may be our business to consider it.

Professor AGASSIZ. I have no knowledge of the influence of color upon meat, but I am satisfied that the change of color must be the result of some general change in the system ; and if it is not shown in the eyes, it will be shown in something else. We ought, therefore, to endeavor to ascertain what part of the system is simultaneously affected with any change in the color, which we perceive distinctly, and that is not yet recorded. Of course, what I know of these things, is what is recorded in books. I have not found on record any indications of the qualities, of any kind, which are connected with the white color in cattle ; but with some animals, it is well known that there is a general weakness, and especially a weakness of the eyes, associated with a white color. It may be, as Mr. Smith has suggested, that there is something in the meat of white cattle, which renders it less palatable, than the meat of colored cattle.

Mr. SMITH. I know, from my own observation, that red cattle dress the best, and sell for a greater price by the hundred, than pure white.

Professor AGASSIZ. What was the reason offered by the dresser, for preferring colored cattle ? That would guide us more than the fact ; because sometimes such things are the effect of mere prejudice, and we should not allow ourselves to be misled. A thing is not established because it is a prevailing prejudice in some places. Can you tell us the reason ?



Mr. SMITH. All beef dressers know very well, and can tell before they dress an animal, how it will dress ; and they know, I believe, that a white, and perhaps a brown animal, will not dress as well as an animal of another color. I am not a butcher, and I cannot tell the reason ; but I have heard the gentleman to whom I have alluded, speak of it frequently. He says, "that animal will dress livery."

Dr. LORING. I have no desire to occupy all the time, but this question of color has opened up a new chapter, and a pretty interesting one, too. The white color of animals, is the most artificial one that we have. I think no man will deny that the white color belongs to those races of animals that have been most subjected to the skill of man, in the way of breeding. Now there is no such artificial animal in the world as a Shorthorn. I have always considered the Shorthorn of England the most remarkable tribute to man's ingenuity and skill in moulding the animal kingdom that I have ever heard of. Suddenly, some keen observer of cattle discovered that a certain bull was producing a type of animal that would make beef faster than any animal he had ever seen, and he laid the foundation of a whole breed of animals that do make beef faster than any other breed—are ripe when they are born, and keep ripe until they are fully grown. I think this artificial breeding develops, to an extraordinary degree, white cattle. There is another class of animals bred for the purpose of making meat as rapidly as possible, and that is the Cotswold sheep. Now, then, what is the quality of the meat of the Cotswold sheep and the Shorthorn ? Mr. Smith says that the butchers prefer red animals because their meat is better, and that they say the meat of animals which he described had a "livery" look. Now, that word "livery" brings you right back to the old English expression in regard to cattle. The cattle of Holland, from which, unquestionably, the Shorthorns were produced, in early days were brought into the market and sold at a low price, because they were what was called "lyery." Their meat was dark colored ; it was not well marbled ; the lean part of the meat was in one mass and the fat part in another mass. It was not the favorite meat of any people in England except those who were obliged, for economy's sake, to get the most fat they could for the least money. And so it is to-day, sir. You go to England, and you will see that

an English nobleman breeds Shorthorns to make beef of, and make it rapidly ; but he does not eat it—he knows better than that. He breeds Cotswold sheep, that are precisely analogous to Shorthorn cattle, but he does not eat them—he knows better than that. When he wants a piece of meat that is suited to his palate he will go to the Highlands, or to the Devonshire region, and select an animal that ripens less rapidly than his Shorthorn, and whose meat is more mature, better marbled, and the juices of which are more matured, for the purpose of making the best kind of beef. I remember that one day, in conversation with Senator Sumner about farming, (and he finds out pretty much everything there is going on,) he delivered a lecture to me upon cattle. Among other things, he said that some years ago he was in Scotland, and stopped with a friend of his not far from Edinburgh. In walking about his estates, he saw running on the hills a little solid, well-shaped black Highland ox—what the nobleman called a “Highlander”—what we call a “West Highlander.” Two or three days after there was upon the gentleman’s table a fine, sweet, juicy piece of beef, with a certain mountain flavor to it. The senator at once remarked, “This is a remarkable piece of beef.” “Yes,” said the nobleman, “that is the little black fellow you saw running on the hills the other day.” That is the beef the epicures eat and have upon their tables, because it is of a higher quality than the beef of the Shorthorn—matures slowly, ripens well, and comes as near the condition of the natural, wild mountain meat as anything can come.

Having touched a little upon the question of meat, I will go to the question of color. All the animals that range alongside of that Highland black ox that so fascinated the palate of the senator and his friend—all the cattle that come alongside of that for the purposes of the table—are of a sort of red color, more or less. The Devons are the next in order. Everybody knows the quality of a piece of Devon beef. There is no question about it at all. There is nothing better in the world. It comes nearer to that native beef I have just described than anything else, because it does not ripen quickly. The breeder of Devons does not take his animals to market until they are four or five years old. He does not sell his calves, because they are not ready to fatten at once ; he keeps them and sells his

two or three year olds. The meat matures more slowly, and is stronger when it is ripe. I agree with everything that Mr. Smith has said in regard to color, and it is confirmed by the facts I have stated.

Now, there are certain other curious facts with regard to the component parts of animals. Last summer I had occasion to go several times to the Hoosac Tunnel, as a member of the legislative committee on that enterprise. I stopped one day at Shelburne Falls, and endeavored to find out what it was that had made that village. They told me it was cutlery. I went into one of the manufactories, and through the politeness of the superintendent I was enabled to examine the shin-bones of cattle used in the making of knife-handles. I found there were two kinds of shin-bones; and I asked the gentleman who was kind enough to show me the works what the difference was. "Why," said he, "one is the New York bone and the other is the Boston bone. The New York bone is the best; it is the heaviest. The price is the same in the market, but the cattle from Ohio and Illinois that are brought to New York have larger, heavier shin-bones than the compact and snug Northern cattle that come mostly into the Boston market." So that, so far as the production of a certain kind of bone is concerned, that comes into one category, and the production of meat into another. Large bones and the best quality of meat do not go together.

I found another curious fact in this county. I was at a town on the Merrimack River not long ago, in the night time trying to edify the people, and in the daytime endeavoring to get edification from them; and I found that the chief business of the place was the manufacture of horn combs. I found that there was a difference in the horns of animals as well as in the bones; that the horns coming from Kentucky and New York were poor, and not well adapted to the purposes of comb-making. The horns belonging to those animals that I have just described as possessing the best qualities as meat-producing animals—the well-organized Northern cattle, which are unquestionably Devons and grade-Devons—these are the horns for comb-making; whereas the Kentucky, Ohio and New York horns are vastly inferior. I come to the conclusion, then, that to get an animal for the best-flavored beef, you must have a small bone and a

poor bone for the purpose of making handles, and he must have good horns for the purpose of making combs.

I state these facts as curious, and because they are the result of my own observation, and bear upon this matter of color and general structure.

HARRISON GARFIELD, of Lee. There is one question that presents itself to my mind in relation to the subject under discussion, and that is, the best method to be pursued in feeding—for instance, calves that are to be raised. My idea of breeding an animal is that it must be kept in a thrifty condition until it is near maturity; so near, that no stinting of food will in any way cramp its development. Allusion has been made to the large development of the cattle of Ohio and Kentucky. I happened to be in Kentucky and Ohio some years ago, and examined several farms. Their mode of raising their calves is to let them run with their cows until the cows shake them off. After they are dropped, the farmer takes no further pains, except to feed his cows well. They have abundance of good clover feed, and never pretend to milk their cows when their calves are with them; and the consequence is, the calves soon attain to a large size when they begin to get some of the sweet feed with their milk. This mode makes calves of large development, and carries out to perfection all it was intended the animal should be. It is a question in my mind whether we do not make a mistake in taking our calves from the cows when they are, perhaps, only two or three weeks old and feeding them; whether we do not stint them in their development and cramp the perfect symmetry of their shape by doing it. Our lambs run with our sheep until they can get their food for themselves or the sheep dry up, I believe. I never heard of a man taking his lambs away from his sheep to wean them; I do not know but they do sometimes. Colts run with their mothers until they are of sufficient age to get their food for themselves, and their stomachs are sufficiently strong to digest the food. So far as the mother can impart anything to her offspring it is done. They are allowed to remain with them until they would receive, probably, no more from their mothers in perfecting their shape and form. It is a part of the system of breeding with us to take the calves from the cows at an early age and subject them to feeding processes. The question is, whether that is not a mistake. I hope the farmers

here will give us their views in relation to this thing. My idea is, that if we are to make the most perfect animal, it must run with the mother until she has imparted to it all she can.

Professor CHADBOURNE. I am satisfied that the matter of color is one of deep significance, and I hope it will not pass out of the minds of the members of this Board ; but that they will make accurate observations in regard to its effect. There are many curious things in connection with the color of animals, that I am entirely at a loss to understand, and I was very much delighted when the Professor referred to it this morning. It has seemed to me strange that we overlooked it, when it is so evident that it has such a connection with the characteristics of animals. When we take wild animals, we see how generally color is associated with sex. Take our birds. The male scarlet tanager is perfectly brilliant, while the female is not ; I doubt if one man in a hundred knows the female bird to be a scarlet tanager. The male knows it, and naturalists know it, by the peculiar characteristics of its structure. Its color is a dull yellow, entirely different from that of the male. We find this difference running through our birds—a certain color for the female and another and distinct color for the male ; and Darwin,—(Professor Agassiz told us how much we are indebted to him for his development theories, and we are ; he has presented a wonderful number of facts, which will be used to meet him)—Darwin says that the turtle's color usually comes from the female, and that cats with blue eyes are always deaf. He cannot account for it, but says it is so. So when we find a particular color, we shall be able by and by to discover that it is connected with some other characteristic of the animal ; and I have been very much interested in reading the report of Professor Agassiz's lectures, in reference to the change of color of parrots by peculiar feeding. It struck me as a very remarkable thing ; and something has occurred this fall which is entirely new to me, and the moment I read the Professor's lectures I began to study this fact. It is this. The squirrels have been abundant, as everybody has noticed ; but everybody has not noticed that there have been a great number of red squirrels with perfectly white tails—just as white as milk. One was caught and brought to me. I supposed it was a mere exception, but I found that they were very numerous all up through Vermont. The children of Dr.



Farnsworth, of New York, were up there, and out in the woods, and they saw there red squirrels with white tails ; they caught one, put him in a warm room, and fed him, and the tail began to turn ; and it was not more than ten days before it was just exactly the color of the rest of the squirrel. Now, the question is, whether the food of the squirrel did not have upon him something the same effect that it has upon parrots in South America.

[After a few moments' interlocution, in which several members of the Board and others participated, Professor Chadbourne continued :—]

There are certain other facts connected with this change of color. It is well known by those who have studied the birds of this country, that the ptarmigan, or grouse of Greenland, becomes perfectly white in winter ; in summer, it changes its color. But in the summer time, those birds that live and build their nests up near the glaciers, so that they may be said to be in a sort of semi-winter state, never completely change, but retain during the whole summer part of their white feathers. And, more than that : while the common color of their eggs is about that of our partridge eggs, part of the eggs of those birds that build their nests near the glaciers are perfectly white. I got some of those eggs, and they were just as white as hen's eggs. The missionaries say they are always of that color. I do not undertake to explain these facts ; I only mention them as facts. Then, again, as you go north among the Faroe Islands, in Iceland, you find that they do not shear their sheep ; they catch them and pull the wool off, and you find a strong tendency in the black sheep to have white wool mixed up in their fleece. I saw it first to a marked degree in the Faroe Islands, and then in Iceland, that seemed to be a characteristic of the flocks there.

Mr. FLINT. It is well known to all who are familiar with the diseases of animals that white horses, or perhaps white and gray horses, are subject to some diseases to which other colored horses are not. Take, for instance, the disease known as melanosis. I don't suppose a case of that disease was ever known, or if ever, but very rarely, in a black, bay or red horse ; but it is not uncommon in white horses. It is a disease which appears in the form of tumors ; and you frequently observe a large tumor near the root of the tail of a white horse. If, as is

often the case, it appears in the form of several tumors, there may be a number of tumors upon the tail, under the jaw, and probably in the internal cavities. That fact struck me as rather a curious one, as seeming to show some inherent weakness which may be indicated by the color.

Professor AGASSIZ. I may say a few words upon the origin of these changes of color in some animals, which will show that such changes cannot take place without a very important modification of the general functions of circulation and secretion. It is best exemplified in the cat. The cat, in its natural condition, is gray; but if you examine the hair of a single individual, you will find that that gray color is not produced by a uniform gray tint spreading over the whole fur, but by every hair being alternately ringed with black, white and russet color. Each hair has these colors in rings alternating with each other, the black rings being more numerous near the root of the hair; so that when you open the hair and look at the base it will appear as if it was thoroughly black, and if you look at the tip it will appear almost perfectly russet, because the reddish hair is more numerous near the tip. There is about an even mixture towards the middle of the hair. That is the case, to a very singular extent, upon the surface of the body of a gray cat, or of the cat in its normal condition. Now, what are tri-colored cats? They are cats that have patches of white and black and russet hair upon their bodies. A white cat is one from which the coloring matter has been taken away from her hair and is now deposited in her eyes and paws and in the margin of the lips. So it is with the black cat, in which the white passes into the eyes, the paws, the intervals between the jaws, and so on. There must therefore be modifications of the secretions of coloring matter among cats, so that in one case it shall be divided in a regular ratio on each single hair, and in another case divided among particular parts of the body. It is impossible that such changes should go on without considerable effect upon the condition of the skin, and in consequence of that, upon the general condition of the animal; but what that effect is, I do not know. I cannot believe that animals of the same species can exhibit widely different varieties of color without exhibiting at the same time concomitant differences in other respects; and in order that this

subject may be studied, I have called the attention of the Board to this matter of color.

With regard to bones and their relative hardness, I might say a few words. We have in Switzerland two kinds of cattle, widely different; small, hard-boned cattle, and large and rather loose-boned cattle; and they grow in different parts of the country. The heavy but loose-boned cattle grow in the limestone regions, in the Alps of Freiburg, and on the Jura. The small cattle, which have compact bones, grow in the granitic regions. You see at once why. The cattle find no limestone to lick, and therefore do not have sufficient limestone in their organization to make a large skeleton. The consequence is, the formation of small and compact skeletons in the granitic regions, while in the mountain regions, the water all contains limestone, and the animal gets with his food limestone, the tongue brings in a larger supply, and so it has limestone enough to dispose of, and that is disposed of rapidly in the formation of bone, which makes a loose structure and a large frame; and so we have that difference strikingly marked throughout the different regions of Switzerland.

JONAS HOLT, of Andover. It is said that man cannot violate the laws of nature with impunity. I would like to ask if it would not be better to let all young cattle feed upon the mother? I have no doubt that is the true secret of raising cattle. If the calf or colt is allowed to go with its parent until it becomes nearly mature, I have no doubt it will have a great influence upon the stock; but whether it will pay here, where milk and butter command a high price, is another question. Some say it is just as well to take the calf right from the cow, but I do not think so. You may raise a good cow, and perhaps a good horse, by artificial feeding, but the natural food of the calf or the colt is the best. But when you come to the question of dollars and cents, perhaps it may be better to raise by artificial means. I recollect I had a litter of pigs, some years ago, and my wife said: "What are you going to do with those pigs? I have not got any milk for them." I said: "We shall not have any trouble. Just give the old sow enough to eat, and there is no doubt she will have milk enough." And I had as good a litter of pigs as I ever raised, without giving them any

milk. They got sufficient milk from the mother until they got large enough to digest ordinary food.

It has been said that butchers do not find white cattle so good as cattle of other colors. I have known something about butchering, and I have often heard it remarked by butchers that a white ox would not weigh as much as a dark-colored ox, in proportion to their size, and that the handling of the beef indicated a quality better than it really was; that white cattle would indicate a very good kind of beef, but when you came to dress it, it would not weigh. I do not know any reason for it, unless it is because it is not as compact as the beef of dark-colored cattle. If any one can give the reason I should like to know it.

Mr. PERKINS. The question has come into my mind, whether, if a man was blindfold, and feeling of a white ox and a black one, he would be likely to be deceived. Anything white looks larger than a dark-colored thing. I know that butchers frequently say they don't like to buy white cattle and lump them, because they get deceived in the weight. A white ox may give us an idea that he will weigh more than he really does, because his color makes him look larger.

I doubt whether white cattle and horses are as tough as others. We have had occasionally wall-eyed cattle with a mixture of Durham blood. They were nervous and irritable, and I supposed it was because they could not tell exactly the object that was near them. These animals may look to be of good strong constitution, but I have noticed that, generally, they will not wear well. A wall-eyed ox will not work with one that is not wall-eyed; they have not such strong constitutions. Now, in relation to horses, you will find that most of our horses that are white when ten years old, were gray when three, four, five or six years old. The skin of these animals is a dark mouse color. I do not know that they are any more tender than darker colored horses, but I know that any horse that has one or two legs white and the rest dark is inclined to scratches, and white-legged horses are always more inclined to scratches than any other. Where a colt is foaled white, his skin is white; but where it is foaled dark, and turns white as it grows older, the skin always has that dark color.

Something has been said in relation to breeding dairy cows; whether a cow that does not come in before it is six years old is

likely to be as good a dairy cow as one that comes in at five ; whether the milking qualities of one coming in at five are likely to develop themselves as fully as those of one coming in at four ; whether the dairy qualities of a cow allowed to come in at four will be as fully developed as if she were allowed to come in at three ; whether, if a cow comes in at three, her dairy qualities will be likely to be so fully developed as at two. Mr. Matthew Smith, a former member of this Board, always used to let his heifers come in at two years old. He said he was satisfied they made better dairy cows than they did when not allowed to come in until a later period.

There is one other idea that I should like to have the opinion of the Board upon : whether if there is no impregnation from the first copulation, that copulation has any effect upon the future progeny.

Professor AGASSIZ. I have made no experiments upon that, and a very interesting investigation is suggested by your question, and it may be experimented upon in a very easy way. Take one of these young virgin animals that has copulated without being impregnated, keep her for some time, and then give her another male, and that fact will be ascertained.

There is one point of this subject which has not been discussed, and I would bring it to the attention of the Board. That is, the age of copulation among animals, and the influence which that has upon the sex of the offspring. There are a good many statistics concerning that derived from the human species. Gütleg the Director of the Astronomical Observatory in Brussels, has published a book entitled, "Statistics of Man," in which he has collected all the facts he could obtain concerning the number of male and female births in different parts of Europe, in all cases where the age of the parents was known ; and he has derived from these observations, which were very numerous, the conclusion, that a young male with a more advanced female, produces male offspring ; that young females with older males produce female offspring—on the average, not absolutely ; and that with individuals of the same age, whether younger or older, the probability is that the offspring will be about equally divided. That is all the information I can submit concerning the influence of age upon the sex. Whether there are other influences which determine the sex is another question, which has been



often discussed and is now under experimentation in Europe, and with reference to which I do not know exactly how the facts stand. But it seems to me, from some experiments made at Geneva and at Neufchatel, on several farms, that the condition of the female while in heat, and the time when the male is brought to her while under that influence, has an effect upon the progeny; that is, that the female receiving the male in the first of the heat will bring a male rather than a female; and in the latter part, a female rather than a male. Whether that will stand as the fact or not, I do not know; I only know that experiments are now making upon that point on several farms in Europe. But what is unquestionable is, that the age of the parents, the relative age of the one to the other, has an influence upon that, and upon the fertility of the female, and the age of the males at the time they are first allowed to serve, has an influence also. The practice in some parts is to use the males very early. That will not help multiply the proofs, because we do not know what are the limitations in those cases, and cannot combine our proofs in such a manner as to derive decided and definite conclusions from them. But the whole question of age, I would now suggest, is one for discussion, and one of considerable importance.

Mr. THOMPSON. There is one point that I have found from experience to be of some importance in the breeding of cattle which I have not heard touched upon to-day, and I would like to have some gentleman give his experience upon that point. It is this: the period of heat at which the female will most surely conceive. Whether or not it is best to wait until the period of heat is nearly over in the female before copulation in order to insure conception. As long ago as when I was a boy, we were always ordered to drive the cows off the moment there was any indication of their being warm. If it was at night, at milking time, we must drive the cow off then—not wait until morning; it would be too late. Since I have been an owner of stock,—which has not been more than half a dozen years, my experience has changed my opinion on that point. In some cases I have waited eight and forty hours before I drove a cow to the male, or else the copulation would not result in conception. It is so with swine and with the bovine and equine races, so far as my experience has gone, within the last few years in particular. I

should like to know if the experience of other gentlemen has been similar to my own.

**Mr. PERKINS.** I wish to inquire of Mr. Thompson in relation to the number of the litter in the case of swine.

**Mr. THOMPSON.** I never have thought anything about that; but I know that one young boar that I carried over from Northampton last year was coupled with a sow, very large and old, when she first came in heat, and there was no impregnation; she did not conceive. The next time we waited eight and forty hours before copulation, and she had sixteen pigs.

**Mr. SLADE.** It has always been a very desirable point with us to produce male pigs. In our part of the country a great many pigs are raised to sell to the Irish, and they have quite an aversion to buying a sow pig. It was stated, some two or three years ago, I don't now remember where, that in order to produce a preponderance of male offspring, the mother should remain in heat some time before she was covered by the male. Three years ago last spring I had a very likely sow that was in heat, and I let her remain thirty-six hours before taking her to the boar. The result was, she had seventeen pigs. Eleven of them were males and the others females. Four of the latter died, leaving eleven male and two female pigs. At the next litter she remained about the same length of time in heat before taking the boar, and had nine male and two female pigs, all of which lived. I was making this statement to a friend of mine, and he said he had always observed the same thing from boyhood. He was always told by his father that if he wanted to raise bull calves, he should keep the bull from the cow as long as possible.

**Mr. DODGE.** I will state that I have had a little experience in one direction in regard to cows. For a period of twelve years I kept, on an average, fifteen cows, and invariably kept a bull to run with them. I never had a farrow cow. If I wanted one to fatten I had to buy it. I don't know that there was any difference between the number of bull calves and heifer calves; but I am inclined to think, on looking back, that there were more bull calves than heifer calves. I never observed such a marked difference as has been stated here.

**Dr. LORING.** I think the question Mr. Thompson has asked is a very difficult one to answer. I don't think we have facts enough to indicate at what time in the course of the heat we

should put the male to the female, or what condition of the male and female will produce certain sexes. It seems to me to be very difficult to get at the statistics showing it, and we must run for luck in that matter, so far as I know, until the thing is well established. But if you can keep a cow in heat forty-eight hours before you take her to the bull, I should go for letting her wait; but that is not easily done. Mares run in heat longer; and while we have no facts to show that the time of impregnation in the heat will decide the sex of the offspring, we have certain facts that go to show that mares at the latter part of their nine or ten days of heat, are a little more apt to conceive than at an earlier period. But that is all in the dark; we have not statistics enough to show us what rules we can lay down. It is all beyond our reach. It is something more than physiology—we hardly know what; something that we cannot explore so readily.

But the question Professor Agassiz asked, as to the age at which males should be put to females, is a question that can be answered. There is no doubt that the use of young males in breeding in New England, has been injurious to our stock. I mean, so far as the size and condition of the animal are concerned. You must remember that the bull has always been an outcast. A bull about a farm is generally considered a nuisance. He does not make any milk, he does not make any beef, he does not do any work; he is a sort of scullion on a place. He is a *bull*, and that is enough to damn him; and the quicker he serves his cows and gets out of the world, the better everybody is pleased. That has been the feeling with regard to breeding animals, among the great majority of New England farmers. We do not want to keep them long. We will take them at a year old, if they are big enough to get at a female, even with a little assistance, and set them at work; and if they will breed at that age, let them breed and get rid of them; but to winter them is the horror of farmers. It is not surprising, therefore, that our market is full of starvelings and runts; and it is unquestionably true, that one cause of the deterioration of New England cattle is owing to the fact that the males have been used at too early an age. Mind you, gentlemen, I have dwelt upon the *art* of this business half a dozen times this morning. Where a man gets it into his own hands, he is bound to make it

governable by his own rules. Now I say, where this art has been applied to the purposes of producing beef, and the animal has been fed liberally for that purpose, a young male has managed to do his work decently, and, possibly, with fair and moderate usage, to keep himself along in good condition. That can be done ; but the best Shorthorn breeders in England will test what the stock may be, and then wait until the animal becomes more mature before they use him to any considerable extent. But there is a class of breeding where all the functions of the animal are to be developed for a prior purpose ; where, in order to secure the object in view, the constitution of the female must be entirely developed, and that is in the production of dairy cattle in Scotland. There the farmer pursues an entirely different course. The Scotch farmer endeavors to raise a hardy animal for the purposes of the dairy, and knowing that the wear and tear upon his cow when she goes to work is to be as great as that upon himself when he goes to work, and if she does give from fifteen to twenty quarts of milk a day, during her milking season, she is making a draft upon her system which nothing but the best constitution can endure, he never uses his bull until he is three years old. He desires to know that his animal has reached very nearly the point of maturity in his general constitutional condition. He desires to know, moreover, what kind of animal he has got, and he cannot satisfy himself on these points until his animal has reached that age. So that the farmer who is breeding, not for the rapid production of beef, which is so entirely an artificial business, but is breeding to secure animals with good constitutions for specific purposes, allows his male animal (just as Professor Agassiz has suggested,) to reach that condition of maturity which will enable him to transmit a good strong constitution to his offspring. In this part of the business of breeding, I have no question that our cattle have been injured by the use of young males.

Now, in regard to the use of young stallions, I insist upon it that no young horse is fit to breed until he has reached maturity. I have tried it myself, over and over again. I have undertaken to observe that business, and the only horses that I have known that bred constantly and thoroughly well were horses six or seven years old ; and I have seen the most disastrous results upon a horse—who is a most sensitive animal—by reason of too

early copulation. I have seen a horse thrown entirely into the shade by the inferiority of his early get. Used at two years old for purposes of breeding, he got one class of colts, and when seven or eight years old an entirely different class. So that I distinctly declare here, and I want it distinctly understood by all horse-breeders, that no horse should be used for the purpose of breeding until seven or eight years old, and then kept upon his muscle by work and proper feed.

So much for horses. One word in answer to Mr. Garfield's question. Mr. Holt has undertaken to answer it, but I do not think he has. There is no universal rule. A Shorthorn breeder must give his calves all the milk that his cows will give—and that is not saying over and above much; because it is well known that Shorthorn breeders in England don't pretend half the time that the cows will bring up their own offspring. But when you come to the other branch of the business, that is another thing. Here, again, I go right back to the Scotch farmer. You cannot make a dairy cow by keeping your calf until it is three or four months old upon its dam. You will make the bone of that calf's leg as big below the knee as it is above the knee; you will develop his head out of proportion; you will make the bony structure so large, that when you want to develop that part of her structure connected with the lacteal system, you cannot do it. The whole animal economy is diverted from the object you have in view. You do not want to raise a big-boned animal, or to develop that secretory system which produces fat. You want to engage in a thing based upon wholly different processes of nutrition, and that is, the power of that animal to produce milk. Now what does the Scotch farmer do in that case? He takes his calves from his cows as soon as they are dropped, hardly allowing them to draw from the mother the milk with which the bag is full at the time of calving, which is generally considered so useful at that time. He begins at once, and keeps that animal within such bounds in regard to growth as to make a good cow of her. He feeds her with oatmeal gruel and a little milk, slightly warmed—the best food in the world to bring a young animal into fine, growing condition. So that, if you desire to produce a good heifer, you have got to follow the example which the Scotch farmer sets you; and, my word for it, if the breed is good, the blood good, and the ances-



try good, you will get pretty near what you want. You must feed for the purpose—one way for one object and another way for another. Take the pig. The pig is meant to eat. It is the business of the pig to eat ; you are not making milk there. Fatten a Shorthorn—you may make beef—not a dairy cow. And so it is with horses. Never expect to have a good horse if you cram your colt ; it cannot be done. The old adage in Vermont, "A ragged colt makes the best horse," means everything. It is not the tendency in a horse to make fat, but the tendency established in his life, when he is young, to make muscle and nerve that is the desirable thing. Your colt, then, should run with its dam until it has reached that condition of the stomach which will enable it to digest solid food. Then take your colt and let it have abundance of free cold air to begin with ; and in addition to that, avoid the feeding of grain until it is three years old, as you would avoid feeding brandy and water to your children when they are little. It is astonishing how many nice colts are ruined by the excessive use of stimulating grain food in their infancy, so to speak. Let your colt mature slowly, its bone grow properly, its digestive functions be properly organized, its flesh in the proper condition—never fat—horse fat is the poorest fat in the world—keep it upon the best English hay in winter and good sweet pasture grass in summer, and you will make the best possible horse of that colt.

I state these facts in regard to feeding because they have come under my own observation, and they answer the questions which have been put to us.

Mr. STEDMAN. I think that for us to adopt the practice of allowing calves to run with the dam would be injurious to the milking qualities of our cows. I think the milking qualities of Shorthorns have been injured by the continued practice of breeding for the production of beef rather than milk. If we were to allow our Shorthorn calves to run with the dam, they could not take all the milk which the dam is ready to give, and the tendency would be to dry up the cow to a certain extent, and she would go dry early. This would be injurious to our interests. I do not believe we can afford it. But it seems to me that we may adopt the practice, to some extent, in our breeding of animals, of letting them obtain milk in the natural way in some form. I think the practice of our Shorthorn breeders

in New England is, if they want to bring a calf forward with considerable rapidity, not to let him run with his dam, but to take a cow of an inferior quality, a farrow cow, or, if it is a milch cow, a grade cow, and put two calves upon her. For bringing up male animals I think that is the better way. I think we should let them have a cow, but not their own dam. I know Shorthorn cows that bring up two calves in that way admirably. But I do not believe that it would be best for us to bring up too many of them in that way. Yet it requires a great deal of care to bring them up artificially. I think the way in which they are very commonly brought up, by feeding them with bulky food, distends the bowels, and produces an ill-shaped animal, which consumes more food than it would if brought up in a proper way, with less distension of the offal, and a better development of the valuable parts.

Mr. GARFIELD. I spoke of the practice of the farmers of Southern Ohio and Kentucky. There they raise cattle for beef, not for milk, castrate their male calves and let them run with their mothers. The mothers, large Durhams, adapt themselves to respond to the wants of the calves, and do not give much milk. The farmers pay no attention to milking their cows. They have some cows that they milk, which, to appearance, give double the milk that those cows do which have their young run with them; showing that by cultivation and training they can be made to give more milk than they do when they simply raise their offspring. Now the question I raised was, whether, in raising our bull calves, Ayrshire, Shorthorn or Jersey, we did not make a mistake by taking them off from our cows? I do not think myself that the practice could be followed here in New England of raising all our calves in that way; I think we could not afford it. But when we want to raise a bull for a special purpose, would it not be better to do it in the way nature has pointed out? That was the thought I wanted to present, and upon which I wanted to get an expression of the farmers present.

Professor AGASSIZ. I would like to allude to one point which has some interest in this connection, and especially as bearing upon the period of conception. We must know, in order to appreciate the influence of the time of copulation upon fecundation, in what way the animal egg is brought into contact with

the sperm. It is well known, from the observations of Baer, that every female animal carries eggs, as well as birds, and that those eggs have to be fecundated in order to produce offspring; and of late, Bischoff has made experiments to ascertain when the eggs descend from the ovary, and are brought into the lower part of the female sexual organs, where they can be fecundated. Now, conception is nothing but the contact between these eggs, which descend from the ovary, with the sperm of the male at the time of copulation; and you have got to make that contact in such part of the female organ, that the egg can remain there, attached to the wall of the uterus, form its placenta, and grow; and unless all these conditions are combined, you can never have a female conceive. When does that separation of the egg from the ovary take place? When does the egg begin to be laid? That is the question. I would go back a little to the birds, where we know something. All the eggs that are laid by a hen have been fecundated, if fecundated at all, before the shell was formed, otherwise no fecundation would take place. In what part of the organs of the hen were the eggs, when that fecundation was successful, which made the egg come down to receive its white, its albumen, and its shell, to be laid as a fertile egg? It is in the ovary that fecundation takes place. For that purpose, the sperm has to travel all the way up the channel to the ovary. How is this done? It is not by the length of the male organ, for the birds have none; and you see it would be a mere misapprehension of the mode in which fecundation takes place, to suppose that the depth to which the sperm penetrates could be measured by the length of the male organ. It is not so. The sperm is ejected into the female organ, it may be at the very edge of it, and is carried up by the nature of the internal surface of the female organ, as high as the ovary, where it fecundates the egg of the bird before it is detached. In the turtle, the egg remains in the ovary, after it is first fecundated, four years, before it is detached, brought down, and laid. In the bird, the consequence of the fecundation and of the transmission of the sperm to the ovary is, that the egg is detached and falls into the fallopian tube, and is brought down through into the cloaca, where it shortly receives its shell, and is then laid. You can see, then, that in birds, which lay their eggs one after the other, and in animals, which lay many in rapid succes-

sion, successive fecundation must intervene, because of the precise position in which the egg is fecundated, and the different places in the organs in which they grow to their final condition. Now, in the case of the mammalia, we know so much by the experiments of Bischoff, and I know thus far from actual observation in rabbits and dogs. No experiments on that point have been made upon the cow or upon the mare, so that everything you would like to know with reference to fixing the time when you must copulate, in order to obtain fecundation is to be learned, there is nothing upon record. But about dogs and rabbits, and particularly dogs, this much is ascertained, that what we call heat is the beginning of the natural efforts of the system to throw off eggs from the ovary, before they are fecundated, and to set them going in the channel of the sexual organs, downward to the place where they can be fecundated. Now, Bischoff has ascertained that it takes so many hours in a dog for that egg to come down to the point where the sperm will reach it, and fecundate it. He has ascertained, also, that that fecundation does not take place always at the same spot, but that it may take place before the egg has got so far down as the spot where it remains in the womb, to be there attached, form its placenta, and grow. It will perhaps be worth while, in the course of time, to slaughter a number of cows, just at the time they begin to be in heat, to trace the position of the egg while in the downward course, in order to ascertain when it would be best to bring the cow to the bull, in order to obtain fecundation. All these matters bear so directly upon the question of the production of male and female, that they may be of vital importance in certain districts. But how this question is to be settled, I do not know, because, as I tell you, we have no book observations respecting the descent of those eggs. The experiments are very difficult. The egg of any mammal is so very small that it is hardly visible to the naked eye. When my eyes were in their best working condition, I could just barely see the rabbit eggs; but generally, to make sure that I did not mistake a speck of decomposed fat, or some coagulation of blood, for an egg, I had to resort to a magnifier. But even with a magnifier that does not increase more than ten times the diameter, you can see an egg so distinctly that you distinguish its internal organization, and know it is an egg; so that you can locate the place where

it is at a given time. It is in that manner that Bischoff made his experiments. He copulated two animals, for instance, and the instant copulation was over, killed the female to ascertain how far the egg had proceeded at the time of the copulation. He has killed in that way a number of animals, at the very beginning of the heat, and he found that there were no eggs dropped from the ovary, and that it is only after a certain number of hours during the heat that the ovary begins to drop the eggs, and that it takes a certain time for those eggs to advance into the viaduct. There is, then, this point to be determined, when fecundation takes place. This opens such a wide field of research, that I do not know in how many centuries we shall know all we wish to know of it.

There are animals that have a bifurcated uterus, in which there are two ovaries, into which the eggs drop from the right and left viaduct at the same time and in succession. There may be two, three, four or five on one side, and two, three, four or five on the other. In turtles I have ascertained that generally there are about as many on one side as on the other; but I have had cases in turtles in which I have found five eggs on one side and one on the other, that had grown to maturity, and would have been laid as ripe eggs, four from one ovary and one from the other; often five from one and one from the other. But generally it was two or three on one side and as many on the other, according to the practice of the species. The snapping turtle lays as many as thirty or forty eggs, and will have twenty on one side and five and twenty on the other; and I have seen those that had half a dozen on one side and the great majority on the other—but never the full size that those animals can produce. The little black turtle lays only two or three eggs, one on one side and one on the other—perhaps a second on one side—but generally one on each side; while the yellow-bellied turtle generally lays five, six or seven eggs, three or four on one side and as many on the other. It has taken about ten years to learn that from turtles alone. You cannot expect, then, to find out these facts by asking the question. It will take the work of teachers in the Agricultural College for generations before we get all we want to know.

Professor CHADBOURNE. I understood the Professor to say that the eggs of birds are fecundated in the ovary?



Professor AGASSIZ. Yes, sir, I do mean to say that, so far as my experiments with hens will determine it.

Adjourned to 2 o'clock, P. M.

#### AFTERNOON SESSION.

The Board met at 2 o'clock.

Mr. STEDMAN moved that a committee of three be appointed to report at the next annual meeting some system by which the Board may collect and embody, in the form of statistics, information relative to the propagation of the various domestic animals.

Mr. S., in advocating the passage of the resolution, said: It has been observed, Mr. Chairman, by the discussion this morning, that we proceed about as far as we have done in years past, and do not get much further. Many of us recollect certain facts in our business operations; many, equally important, we forget; and none of them have been recorded with sufficient accuracy to be wholly reliable. My idea is, that by the appointment of this committee, and by issuing a printed schedule of questions, (such as, for instance, the age of your male? the age of your female? the length of time she goes with young? and various other questions which such a committee would suggest,) which each member of the Board who is engaged in breeding may take and distribute among agricultural people, we might be able to gather a great amount of information, which, if left in this loose way, would never be put into shape, or, if it was, it would be of such a character as to be of no value; some would record one fact and some another. It occurred to me that something of this kind might be done to promote the object we have in view.

The motion was adopted, and the committee subsequently appointed, as follows: Mr. Stedman and Professors Agassiz and Chadbourne.

#### GRAPE CULTURE.

This subject having been assigned for consideration, Hon. E. W. BULL, of Concord, addressed the Board. He said:—

I do not propose, gentlemen, to repeat again the invitation which on former occasions I have made to the Board, to examine into this matter of grape culture, and look at the arguments by which it is proved that grapes can be profitably cultivated in the

vineyard. That is all over, for it is a demonstrated fact to-day, and more than one hundred acres of grapes are now growing in Massachusetts. A year since, when we made some investigations in order to ascertain how many we had in our county of Middlesex, where the Concord originated, we were surprised to find that fifty-four acres were planted in fourteen towns nearest to Concord, without being able to ascertain how many, if any, were planted in other towns. This year, within my knowledge, not less than forty acres, and probably more, have been planted, and this does not include the small holdings. I assume, therefore, at once, that the possibility of growing the grape in the open air is demonstrated—that the vineyard is to-day established in Massachusetts. I want to say to you to-day what, in my judgment, is the truest way to success with the vineyard, and to state to you those circumstances tending to successful grape culture which are indispensable. For instance, you must have a soil which is suited to the grape—that is to say, a warm, dry soil. You must have a grape which is itself perfectly hardy without protection; for you cannot, without great labor and expense, take down and protect the vines in a whole vineyard. Let me tell you, in passing, what I mean by that term “hardy.” It is very common to speak of grapes as hardy, which, upon trial, prove to be tender in the winter, and hardy only with protection. Those grapes which are hardy with protection—which can be made to live with care and skill in the open air—are not hardy grapes; but only those which, when well-ripened and well-grown, will, like other plants, survive the severest vicissitudes without protection—as we say the apple is hardy, the pear is hardy, and the oak is hardy. In that sense, and that only, would I say a grape is hardy—that it survives the most severe vicissitudes of our winter season. We have always grown, in this country, to a limited extent, by the aid of skill and protection, especially in our cities, grapes of foreign origin; and we have always had our perfectly hardy native grape—that which the Northmen found, in the eleventh century, so abundantly that they christened this coast “Vine-land.” I desire your attention for a moment to some of the qualities of that grape, and the circumstances attending it, as they seem to me to be true, that you may perhaps proceed with me in raising from it seedling grapes, in the confident expectation that in the future,

from this hardy native stock, you will be able to get grapes of excellent quality for the table and for wine, and as hardy and enduring as the present native grape. Only in that way, it seems to me, shall we be able to establish the vineyard successfully; only in that way shall we be able to get grapes good enough for all our purposes, and which will add another staple to the granite and ice, which are said to be the only staples of Massachusetts. I confidently believe that we shall have the grape added to our products. I believe that in a former period of the world's history—perhaps before the ice period—it was, like the indigenous grape of the East, of a greatly superior quality to the grape of the present day. Perhaps it was obliterated during the ice period, but the seeds remained in the debris. Or, possibly, from the South it crept North by slow degrees, many of the plants dying, but many adapting themselves to the climate, though suffering, in consequence, of the shorter seasons than the grape is known to require in other parts of the world. I suppose this may be true, because our grape is distinct from that of the East: and if the indigenous grape of the East was always good, as we have reason to believe—for the vineyard grapes of to-day have been grown from that—then I conclude that this was originally a much better grape, but suffered under these disastrous circumstances, losing its good quality, acquiring a thick pulp, a placenta-like substance surrounding the seeds, which protects them from the severity of the season, and helps them to ripen if they fall prematurely. The pulp is disagreeable to us to eat, yet that pulpiness, that thickness of the skin, and that coarseness of habit are all incident to the processes of nature, which hardened them to new conditions, and enabled them to survive the severe climate to which they were exposed.

Now, if that be true, we, by successive reproductions from seed, are simply restoring the grape to its pristine excellence; we are not debilitating, we are not altering much; but simply restoring it to its original condition. But however that may be, this fact is established—that by a constant reproduction from seeds, you can ameliorate the quality of the grape; and since it is reasonable to suppose that a process like that once begun will not find its limit immediately, we expect to achieve still further successes, and to ameliorate the grape to that condi-

tion where it shall be equal to the foreign grape in its qualities, and adapted to our climate in its conditions of vigor and hardihood.

In passing, let me bear testimony to the work of those eminent men who in this ancient town have done so much for horticulture. To the elder Manning, who introduced the pear at great expense, and with a European correspondence sometimes almost diplomatic; who, in advance of others, brought to this country those choice specimens of the pear which have since been disseminated, and for which his modesty prevented him from receiving the credit. To your Mr. Rogers, the grape-grower, and Mr. Allen, two gentlemen who, I believe, are the only men in this country who have had absolute success in hybridizing or cross-breeding the foreign grape upon our native stock. Your Mr. Rogers, in particular, has done a great work. I am delighted to find that a gentleman of his skill and persistency has taken that method of reproduction, because, having taken another mode myself, we shall be likely, by one mode or the other, to secure the result we aim at. Hybridizing with the tender foreign parent is attended, I suspect, with this danger—of making the plants more tender, and affecting our native stock too much for our climate; but possibly, very possibly, Mr. Rogers may succeed in getting a hybrid which will be quite hardy, and the quality of which shall be so good as to suit the most fastidious. I know that by my method of reproduction we must wait a long time for the choicest grape; but I believe that by my method I may ultimately achieve success, and I think myself it is the surest method—slow but sure. The wild grape, in the second generation, gave me the Concord; the grandchildren of the Concord have given me, this year, grapes of so much better quality than any before raised, that I regard the problem as settled, that we shall have grapes as good as we desire, that shall be perfectly hardy in open-air culture.

Now, having this primary fact of vigor and hardihood in the grape you are going to plant, all the conditions of culture in the vineyard must be present or you will not have success. You want a suitable soil, you want a proper aspect, you want to prepare that soil properly, to plant and train the crop within certain reasonable and proper conditions, or even then you will not have success. There is such a thing as a little wise neglect in grape-

growing ; and I am sensible more and more, with every succeeding year, that we have interfered too much with the grape to obtain the best success. We prune too much, we manure too much, we trench the ground too deeply ; and finally, by this perpetual interference—by summer pruning and artistic training into set forms which we insist upon—we have actually deprived ourselves of a portion of the crop at least. In the first place, it will be immediately apparent to every horticulturist present that a crop that requires heat must have its roots within reach of the influence of the summer sun. Now, in our Massachusetts, and throughout the North, the soil does not get heated sufficiently for the roots of the grape during the summer to a greater depth than to about twelve inches. If you trench below that and manure, as is usual, the subsoil, the manure will invite the roots of the grape down into that colder subsoil. They are sure to go there, and they pump up crude and immature juices, which do not feed the grape so properly as those do which are nearer the surface, and which are ripened and elaborated by the action of the heat of the sun. I think I may say that I know that to be true. Let me relate an incident in my practice which led me to consider that subject—for I used to trench. When I began, I followed the books, and I had a qualified success. I had a success so much greater than my neighbors that they came to me to know how I grew grapes in my garden in Boston. I followed the books and the methods practised by horticulturists, and might have done so up to this day, had it not been for a certain incident which happened, which led me to plant nearer the surface. We had been planting, and Saturday, at night, we had one vine left over, which we laid in by the heels by the side of the garden walk to be planted on Monday morning. We forgot it, and it began to grow. Of course we left it there, and in the course of the summer that recumbent stem pushed out roots into the hot surface-sand of the path. They did not go there for moisture, for it was not there ; nor for manure, for it lay over the edge of the sandy path ; and I could see no other reason for their going into that surface-soil, except the heat. That vine remains there to this day ; it was never planted. On the garden side, which was a tulip bed originally, I followed a root going out from this vine twenty-five feet into that soil, four inches from the surface only.



That vine is ten years old, and last year it gave me one hundred and twenty pounds of fruit, and this year it gave me seventy-eight pounds. It makes abundant wood. It has not had, from that time to this, any manure of any kind. I have purposely neglected to feed it with anything, even bone-dust, or ashes, or pabulum of any kind, that I might ascertain how long it would thrive without it. It has apparently come to that point now when it needs feeding, for it gave about forty pounds less crop this year than it gave last year, and I shall refresh it with bone-dust and ashes, both of which I consider indispensable to the grape. I mention this fact to show the necessity of heat at the root of the vine—bottom heat—and how much wiser as well as easier it is to plant near the surface than to plant deeply in trenched ground.

In regard to aspect, it is certain that a warm and sheltered aspect is of great advantage to the grape. It is often equal to a degree or two further south. A south slope, with shelter of wood or belts of trees on the north-east and west to prevent the winds from blowing away the hot air created by the heat of the sun, is always the most desirable. Get and save all the heat you can. If I were asked what element is more needful than all others to the grape, I should say *heat*. Heat is indispensable if you want to achieve the highest possible success in grape-growing. Heat at the root and heat in the surrounding air; planting near the surface secures the first, and sheltered aspect the last.

No fruit grown is so patient of drought as the grape. There are certainly some few kinds that need forcing with rich manures and irrigating in a dry season, but they are the exceptions and not the rule.

Although the grape does prefer this light, warm, sandy loam, in our climate, to heavier lands, it is not by any means certain that it would not do even better in a soil more or less calcareous, for it is found in Europe, and I suppose it to be a general rule everywhere, that a calcareous soil is best suited to the grape—that the fruit and the wine will be of better quality than where the vine is grown in sandy soils. If one therefore had a soil of that description, (and some such soils do exist in Massachusetts,) which yet was a little heavy with clay, it might be ameliorated by culture so as to carry the grape well. I know an instance where, on a heavy soil of a calcareous character, the Concord

grew with great vigor, bearing large bunches; but the grapes were not so good to eat as those grown on a warm soil, and the grower, a distinguished horticulturist of this State, told me he could do nothing with them. That same gentleman has found a method of growing and ripening the Concord, so that he took the premium for the best specimens of that grape shown at the last exhibition. You can, therefore, modify these adverse circumstances by cultivation and skill, and by the application of those particular substances which are so necessary to the grape in order to secure a crop. I speak specially of phosphate of lime, ashes and sulphur, to some extent. If you manure excessively, mildew is apt to ensue. I have heard horticulturists say they did not care for mildew because they could kill it with sulphur. But sulphur is powerless to prevent the recurrence of mildew, and unless you want to be put to the trouble of applying sulphur every year, you will adopt the other method and save your manure. I would advise you to manure at the time of planting. To promote the formation of young roots manure is indispensable. I should apply it as for the corn crop, at the rate of about forty loads—ten cords—of good compost to the acre, and plough in three or four inches deep. After that I would never give any manure from the barn at all. Compost would be better than manure, because less gross; and being composted with vegetable matter, it would add to the soil—if such a soil as I have recommended—that which the soil needs while it is suitable to the grape. The grape is the daintiest feeder of all growing plants. It abhors even vile odors, according to an old writer; and certain it is, that grapes grown on a pure, sweet, dainty soil are of better quality than those which grow upon coarse and heavily manured soil. I know that, absolutely. I have a little vineyard on the top of a hill, which is a gravelly loam, charged with some protoxyde of iron, which, during the whole time it has been in my possession, for twenty-nine years, has never had manure but once, and that was given to the crop which preceded the planting of the grapes. I did not, at the time of planting, believe that it was a good spot for a vineyard; but a German grape-grower, a gentleman of experience and culture, being at my place, recommended to me the planting of some Concords four feet apart. The Concord being a rampant grower, I had planted, before that, eight feet apart;

he thought they would succeed better four feet apart. I took the German method and planted that spot with vines four feet apart, because I supposed that, being on a barren hill, they would not grow so rampant; that we could hold them in place easily. Let me say, that at one of our exhibitions, where I carried some large handsome bunches to give to the guests, and some smaller bunches from this hill-top, one of the guests, a grape-grower of Middlesex, and a gentleman of long experience, came to me and asked: "What is the grape in the other room?" I said, "The Concord." "I don't mean the Concord," said he, "but the smaller grape." "The Concord." "You needn't tell me that it is the Concord; it is a great deal better; it is one of your improved seedlings," he said at once. When I told him the circumstances, he said: "Then I don't know anything about grape-growing." I instance that to show that manure is not necessary; that the grape is so delicate a grower that it does better where the soil is not manured; if oxyde of iron is present I should think it an advantage. That vineyard gave me bunches half the size of the largest bunches from other vineyards, but the quality was a great deal better, and the fruit makes a great deal better quality of wine, corroborating the opinion of French wine-growers, that you must not manure a vineyard. It is a well-ascertained fact, that some vineyards in France which have to be manured once in ten years, because of the circumstances of the case, do not give the succeeding year their usual quality of wine; and that wine is either saved for distillation, or brought to market without the name of the vineyard attached to it, if it be one having a reputation.

But although you can succeed so easily with a hardy and vigorous grape, under ordinarily favorable circumstances of soil, there are some which you cannot succeed with in that way. Whatever habit the vine has of itself, whatever habit was born into it, remains with it; it is inflexible, obstinate and intractable in its habit. You must treat the vine, therefore, according to the necessities of the case; what I have said would be the proper treatment for the Concord grape, or any other vigorous growing grape, would be the worst method possible for the Delaware, a slow-growing grape, a grape which requires high feeding, and which you cannot succeed with unless you give it high feeding. Some of the tender grapes that are grown here, those

grapes suited to the amateur, those grapes that are indispensable, one or two of them, to every grape-grower, will require protection and skilful treatment, such as is given to the foreign grape when its culture is undertaken in this country, to succeed. But of that I do not propose to speak any further now.

I do not want to say anything about special grapes, because, as a rival grape-grower, I should be suspected of prejudice immediately ; but I feel obliged to say this : that you must take with some amount of salt all the startling announcements of new grapes, which are going to be better than anything ever seen before—more hardy, more profitable, and going to bring you a dollar a pound in the market. You will have to buy these grapes, of course,—I do,—everybody must,—because out of them all there may be some prizes worth having ; but I would go into that moderately ; I would not believe too absolutely the statements made by persons who have originated or obtained them, and put them upon the market. Great mischief comes of it, in this way. An enthusiastic man purchases a few hundred vines, plants them, and is so much disappointed in the result, that he gives up grape-growing altogether—which is a great harm.

Now, to persuade the public to plant vineyards, it will be necessary, not only to show, as I have just shown, that it is practicable, but how you may make money out of it ; for if it is not profitable, our people are not likely to go into it. The gentlemen of the Board will remember what was said yesterday, in the debate in regard to the Agricultural College—that the students of that institution, after having acquired their education, would have such a distaste for the labors of the farm, which they would come to look upon as abasing them, that they would go into other and more profitable pursuits, and leave the farm altogether. If that were true (which I do not believe,) the vineyard is the alternative which would keep them at home, provided it could be shown to be profitable. Now, that the culture of the vine is profitable, has been established in the experience of every grape-grower who has grown it on any extensive scale for several years. It is prolific, it is constant, it is marketable—more so than almost all other fruits ; and therefore, if you can get good crops, it is very profitable. For seventeen successive years, I have not failed to have a grape crop ; sometimes

larger than at others, but always a renumerating crop; and a ready market is always found for it. As to the market: the first season the Concord went on the market, it was sold at ten cents a pound; the next at twelve and one-half cents; the third year, at a shilling; the fourth, at twenty cents. The earliest shipments to market this year brought thirty cents, and the average price was twenty. But suppose your market to be glutted—the alternative is wine-making. The wine-maker will buy your grapes, and the price of grapes for wine-making is ten cents a pound. At Hammondsport, two hundred miles west of Albany, where they have a large vineyard, and make large quantities of wine—having, indeed, an incorporated company—the common price is ten cents a pound for wine-making. Let us take this estimate. The Catawba yields, on Kelley's Island, three and a half tons to the acre. They boast of it as a large crop, and so it is, for that grape. Colonel Husmann, of Missouri, fifty miles west of St. Louis, gets nearly nine tons to the acre. Mr. Jode, of Burlington, Iowa, took 8,860 pounds from half an acre—being the first crop, four years after planting. These crops are constant, I suppose, because Mr. Husmann says, in his book upon grape culture (which I recommend to you as one of the best and most practical of all,) that he gets a thousand gallons of wine to the acre, which implies about the same crop I have named. In Massachusetts, we have taken seven tons to the acre. This year, which has not been so favorable a grape year as usual, I had five and a half tons to the acre. I have had seven tons, and other parties, with smaller holdings, have had crops at the same rate. These are crops so constant, that we have come to count upon them. But suppose we take the estimate of the Catawba, of three and a half tons to the acre. At ten cents a pound, the wine-making price, you have \$700 to the acre. Three and a half tons, at ten cents a pound, would give you more profit than any other crop known to our husbandry, except, possibly, tobacco, a crop which can be grown only in limited quantities, because, when the market is supplied, there is only one use for it, and the price goes down.

I have spoken of wine-making. I know it requires a little courage to stand up against the prevailing opinion in opposition to the use of wine of any kind, lest it injure the cause of temperance. I have no such belief. I am as friendly to the cause of



temperance as any other man can be. I have labored in it, and spent my time and money for it, and if I did not believe from the bottom of my soul that the introduction of pure wine from the grape, under vineyard culture, so that each man could make his own wine, whereby its purity would be assured, would aid the cause of temperance, and abate the use of those injurious drinks that are now so common among us, I would not make a gallon of wine. I know that an eminent writer has been quoted recently as saying that in London and Paris the use of intoxicating liquors was more common and notorious than in New York. A writer on Italy, and a very able man, has said that the use of wine led to very frequent quarrels in Rome, where men poniarded one another, and were up before the courts the next morning. Now an eminent gentleman of this State, who was formerly a Baptist clergyman, and for two or three years a pastor of the Protestant Chapel in Paris, says that in the departments, where they grow the grape and use wine, there is no intemperance, except very rarely, about the large towns and about the taverns. In Paris, he says, the amount of intemperance, in consequence of drinking brandy, was very large; and the moment he got into those districts where they could not make wine, but made beer and drank brandy, he found intemperance. And that is the testimony of multitudes who have written on that subject. I could fill a whole page with the testimony of eminent men who have written books, or whose letters to their friends have been published, corroborating these statements. It is not wise to take a fanatical view of this matter, and to come to the conclusion, that because distilled liquors are poisonous and injurious, and lead to mischief, we are never to use any other. However, I only allude to that point here, because I have proposed the alternative of wine-making. I do not think you will have to resort to that alternative. I have not the slightest idea that all the grapes that can be grown will be sufficient to supply the market at even the wine-making price of ten cents a gallon. And if you ask me how I come to that conclusion, I will state to you a fact. In our Western country, grapes sell for about five cents a pound. Now, Catawba wine is worth about \$1.60 a gallon, at the extreme West; at the East, it is sold at a much higher price—about \$4; and about fourteen pounds of grapes are required for a gallon of wine. You

may be sure, therefore, that if at the West, where the vineyards are most abundant,—I speak of Cleveland, Cincinnati, and the centres of the grape-growing region,—the price is five cents a pound; on this eastern coast, where the price of wine is so much higher, you will always find a market for your grapes at ten cents a pound.

I said there was such a thing as a little wise neglect in grape-growing. We are counselled by all writers on the subject, to train them in a particular fashion,—some with horizontal arms, some with a straight stem upon a pole, to be spurred, some to be cropped the whole length of that stem upon one pole, while a new one grows this year on another pole, to be cropped next year; and all of these methods are successful, but some of them require so much skill and care as to be difficult to pursue; and some of them, especially the horizontal arm-training, leads you occasionally to such a loss of spurs, in consequence of the sap having to traverse that horizontal branch of wood that you have to cut back very nearly to the beginning, in order to get a new arm—losing, of course, one year's crop. I would grow a single stem, high enough from the ground to facilitate the culture about the grape. If I had an espalier, which I think the best, I would let that single stem reach to the lower bar of the espalier, say eighteen inches from the ground. From that lower bar I would lead arms right and left, at an angle of forty-five degrees, until they reached the top of the espalier, which should be six feet from the ground. You have, then, a vine in the shape of the letter Y. The main stem which reaches to the lower bar of the espalier, is never to be allowed to have any spurs or any branches. Those side arms will have spurs, and those spurs will be pruned annually to about three eyes. You see, then, that at the end of the year, when you have done your pruning, you will have two diagonal arms upon the espalier, with spurs to each, at the usual distance of about nine or ten inches, which spurs, being new wood, the current wood, which bears fruit next year, will have a branch from each eye, and each branch will give two or three bunches of grapes. That is the simplest method, and continues from year to year, without difficulty. When you come to the next year's pruning, each one of those spurs of the preceding year will have had three branches. In pruning for that year, you will cut out wholly

two of those branches, back to the last branch, which was the first bud on the spur the preceding year, and that you will cut back to three eyes, as before. You can see how easy that method would be.

Now, as to summer pruning. I believe summer pruning to be pernicious. It is the custom to pinch the grape in summer; I have done it until a very recent period, not being aware that with a little neglect I should have a larger crop and a more vigorous vine. And that seems to be very reasonable when you look at it. It is very well to pinch the grape once, at two leaves, we will say, beyond the farthest bunch. If the growing shoot sets three bunches, then at two leaves from the third bunch I would pinch the growing shoot, which would set back the sap to strengthen that part of the wood, and develop those bunches which you leave. It has been the custom among grape-growers, and is still practised among those who think it the best method, to pinch again and again; but during the past summer, I have let mine grow, without pinching, until the growing branches, two or three yards long, have touched the ground, and covered the crop with successive layers of foliage, not lying so close upon each other as to smother the foliage and destroy it, but so close that it would keep off effectually the first frosts of autumn from the ripe fruit. It is necessary that there should be foliage enough to perfectly ripen and make into true sap, the *crude* sap which the root takes up. Nature gets rid of part of the watery particles by evaporation, and part are taken up; but if you have root power sufficient to make three feet of wood, and take away half, the elaborating surface is only one-half what it should have been, and your vine is impaired in some degree in some of its functions. An eminent writer at the West, Professor Kirtland, believes that the bad condition of the Catawba is due to excessive pruning and over-cropping together. He thinks that pruning too close, and robbing the vine of its foliage, have induced a diseased condition of the sap, which has ultimately broken out in the form of rot and canker, which have in some cases destroyed whole vineyards, or prevented their bearing at all, so that they have dug them up, and planted more hardy grapes. Now, the Catawba was a rampant grower in the beginning, and thought to be perfectly hardy and vigorous, and free from all disease; and it had been grown many years before the rot

affected it badly, and before these defects manifested themselves ; so that it has come to be a saying among grape-growers at the West, in regard to any new grapes, that it remains to be seen whether these kinds that are now enjoying immunity from disease, will continue to have that exemption.

When you consider that the grape lives a thousand years, that it grows to a large size when let alone, that those old vines are always healthy, I think you will see immediately how much better it will be to give your grape extension, and to let it have that way which nature indicates for it so plainly by its rampant growth and habits, than to confine it within too narrow bounds, at the risk of gorging it with unripe sap and inducing disease. There is a vine in Richmond which was measured by two friends of mine, officers of the Thirty-Second Massachusetts Regiment, who came through that city after the surrender of Lee, and found to be forty-eight inches in circumference at the base, and sixteen inches in diameter. There is one vine in New Jersey with a diameter of two feet. Downing mentions one on an island in the Ohio River which had a diameter of two feet, and the branches of which covered more than an acre. These largest vines were estimated by Downing to be two thousand years old, and I do not know why they may not be. There is a bearing vine in New Jersey which gave, two years ago, seventy-eight bushels of fruit which went to market.

These facts which I instance, all go to prove that the grape ought to have a large extension ; and if you plant your vineyard, setting your vines eight feet apart, or eight feet by ten, and take crops from it for several years—for ten years, we will say—until the vines get too large for the space, cut out every alternate vine, (which have paid for themselves over and over,) instead of cutting back too closely in pruning. I have no doubt myself that the sap is injured by this engorgement. If you girdle a vine, a very common practice, you increase the size of the wood, and also the fruit beyond the part you have girdled, because you have intercepted the return of the sap ; but that wood is more imperfect, and that fruit, I think, is never so good as that made from the thoroughly ripened sap of another vine, where all the processes have gone on naturally, and the return of the sap has not been impeded. I suppose engorgement has some such effect as this, that the crude, unripe sap distends the

- wood, and it is not so solid, ripe and sound as it otherwise would be, and becomes liable to that disease called canker among nursery-men. Blight, which is sometimes caused in the spring, has an aspect something like that. The young shoot, being pushed forward prematurely by the heats of spring, is blighted by the cold, easterly storms that sometimes follow. That has happened for two years past. In warm, sheltered locations the vine has put forth its shoots two weeks earlier than usual, and the cold
- easterly storms, with the thermometer very nearly at the freezing point, have blighted those shoots, and they have been discolored and taken on this very form which gardeners call canker. Such wood should never be used for propagation, because the disease is continued. The new growing wood will have the same predisposition to disease, and it will never be so good a vine, if, indeed, it does not go on from bad to worse.

Most of you have vines of your own which you can multiply, and it is better for a man to make his own vines than to buy them, if he can wait for them, because he can then select the proper wood to make vines from, and, when they are made, reject those which are weak. The wood should be sound, short-jointed and well-ripened. Some prefer the long-jointed wood, of a rampant and coarse-growing character. Well, gentlemen, if you were to go into my vineyard, where I do not use manure, you would find, out of twenty-five inches of wood, three, four or five inches, rarely more, of perfectly solid, well-ripened wood, and well-developed buds for bearing the next year. On the contrary, if you find a vine over-fed, ill-fed, heavily-fed, long-jointed, it will be found to have smaller buds, very many of them leaf buds, and very poorly developed fruit buds, which will give you meagre bunches next year. Let me state an instance to illustrate that. I knew a handsome orchard in Norfolk County belonging to a carpenter. He kept it in the finest condition; he was always feeding it and pruning it, and he had very handsome trees, but no fruit. After the old gentleman died, his son left the place, and the orchard was neglected. At the end of two years he came home to find it heavily loaded with fruit.

You must have a proper balance, and then you have fruit and wood in proper quantities. Indeed, the law of pruning would lie in that. If you have excessive root-power there will be too



much wood. If you do not have room upon the trellis to lay in that wood, your only alternative is to crop heavily, in which case the strength of the vine goes to the crop, and the balance to wood. If, on the contrary, the root is small, the growth of the top will be less, and every experienced man will be able to see if it is weak, in which case he will prune back pretty closely. But if he has got too-much wood, he will see that the root-power is too great, and let it bear heavy crops of fruit, to restore the balance and the force of the vine going to mature the fruit, he will find it manageable.

You see, therefore, that with a little wise neglect, and cheaper processes than we have thought to be needful, you will achieve the highest success. No matter how you train the grape, so long as you have spurs of good wood. So long as it continues to make wood satisfactory to you, no matter what may be the form, though the stem of the vine be contorted ever so much, though it have the most grotesque form, still you will have your crop. Training is more a matter of taste than necessity, except in so far as some forms are more convenient to prune and harvest the grape from than others. There is not the least necessity for training in set forms in regard to crop or quality.

Those ripe cuttings which you will take from the vine should have at least two buds; if very short-jointed, three. Cut them off with a clean, close cut, just below the lower bud, from which point the roots are most copiously emitted, and leave the tip of the shoot one inch above the bud which is to make the vine, that it may project from the ground and be observed when hoeing. Plant the cuttings in mellow earth a few inches apart. Leave the top of the shoot just apparent upon the surface, and that will leave the bud a little less than an inch below the surface, from which place it grows with the greatest facility, giving you no more trouble, except to furnish a slight shade of branches or leaves or anything else, until it has got two or three leaves, in order that the young shoot may not be burned under the powerful heat of the sun. No further care is needed, except to keep the ground clean. Then you will have vines of your own growing, of wood known to be healthy, from which you can select out the best and reject the weak altogether, and so establish a vineyard that shall be sure to have thoroughly healthy vines throughout its whole extent.

As to that part of the vine from which the cuttings should be taken to secure success, it is believed in Europe, and I suppose it to be true, that that wood which is most prolific and produces the best and earliest bunches, is the best to cut from. Experiments made at Thomery, near Paris, have proved that they are the best. At least, all the grape-growers in that vicinity believe that they increase the precocity of the vine by that method.

Let me say a word about the Thomery method. It is substantially the horizontal method. Thomery has not a good aspect for the grape, and the soil is cold. They build up walls of clay, about eight feet high—of the proper thickness to stand—which are covered with boards, both to prevent the rain from breaking down the clay walls, and to shed the water from the vines, which are trained upon an espalier, close to the wall. The vines are planted twenty inches apart. The first one is trained on the lower bar of the espalier, with one arm running to the right. The second one is trained on the second bar, with one right hand arm and another short left hand arm, and so on all the way up, the last one, that comes to the top of the espalier, having an arm running wholly to the left hand. They are closely pruned, and closely planted, which is the custom in France. But it is a question, perhaps, whether they have not debilitated the vine by the effect of too close pruning, and too close planting.

Now, as to feeding, let me instance another fact, from another part of the world, which I think will satisfy you that the theory is perfectly sound, that you must not feed your grape too much; although I want you not to forget that it must have those mineral constituents, phosphate of lime, potash and sulphur, in some form. The application of sulphate of lime, or plaster of Paris, is the best and cheapest method to apply sulphur. Among the Lesser Cyclades of the Greek Archipelago, is a little island called Santorin. It is a volcanic island, which has been peopled for many ages. It has undergone a good many changes from the effect of volcanoes. At one time, it had a peak which rose very high toward heaven, which in subsequent disturbances, subsided altogether out of sight, leaving in the middle of the island a basin, with fissures going to the outer sea, which are now inlets to that haven, for the commerce of the place. The phenomena attending that island are of such a nature and of

such interest to scientific men, that many gentlemen have gone there on purpose to study all the circumstances attending the case, and have written some most interesting chapters in connection with it. Among other things, we find that although there is no rain there, although there is no soil there, yet grapes grow there in such profusion, and of such excellence, that it is famous, and has been for ages, for the choice quality of its wine and the great abundance of its grapes. It is stated by one of those visitors to the island, that from one stem, one growing shoot of the current season, forty-eight pounds of grapes were taken, and that the bunches weigh frequently ten or twelve pounds. If, then, the grape, under such circumstances, can attain such luxuriance of growth and such abundant bearing, and such excellent quality besides, without manure, only growing in the volcanic debris of that island, which always abounds in sulphur and lime, the mineral substances which the grape loves more than all other things, watered only by the evaporation of the sea and the nightly fog, you can see how easy the culture of the grape must be in those countries where the vicissitudes of climate do not prevail.

Now, gentlemen, let me say a word about reproduction from seed. I am sure it is only a question of time, and I wish I could inspire every one who hears me with the desire to grow seedling grapes, with a view to the improvement of the delicious fruit, in order that, in the various circumstances of soil and aspect, the chances of producing better grapes and ultimate success might be multiplied; for with the grape, as with all growing things, it is true, that in the same soil and under circumstances of soil and climate always the same, the plants continually reproduced are prone to put on the form of the parent, because it is the surroundings, in part, which make the thing—so much so, indeed, that in some cases a vine or other plant which will thrive perfectly in one place does not succeed when removed from that vicinity.

Let the vine you take your seeds from be healthy and vigorous and not too young. An old and well-established vine is the best. Take from that vine the earliest and largest and best bunch, the bunch having the qualities you desire most, and plant the seeds in the autumn, in a rich bed of earth, thoroughly enriched with nitrogenous manure, thoroughly decomposed

night-soil, with bone flour and live wood ashes and a little plaster of Paris. Put the seeds in a row an inch deep, and cover the row with a board, that the seeds may not be disturbed during the winter. If there are cut-worms or wire-worms, or insects likely to disturb the young seedlings when they start, you will find that they will come to the under surface of the board for the sake of warmth, and they are easily destroyed there. When the vines grow it will be necessary to shade them until they have got the third leaf; after that they will endure the severest sunshine without harm; and unless the season be very dry indeed, they will not require water. They will grow with more or less vigor, some more vigorously than others; but out of these seedlings you would be likely to get some absolute improvements. While they are growing in the bed some will exhibit more vigor than others, and those are usually, though not always, the vines which return to the original coarse type, and to the vigor incident to the original vine, and also to its coarse habits. The improvements will usually be found in those which grow with a little less vigor. I do not move them at the end of the first year, because I find by experience that some of the seeds do not grow the first year, but do the second. In the second year a new crop of seedlings will come up in these same rows; and in my experience those seeds which are two years in coming up give the best results. Out of them you get your successes more than out of the others. I have had rampant growers, which I planted out by themselves, supposing they gave some improvements on the old vine; and out of one-eighth of an acre of such seedlings I had five very choice vines, with all the vigor of the original vine, and improvements decidedly worth saving. All the remainder proved either barren or worthless. These seedlings can be planted in rows, not more than two feet apart, and the rows six feet apart, and can be easily looked after from year to year. They are not a great deal of trouble; they grow while you sleep; and the fifth or sixth year they will bear; out of an eighth of an acre you would almost certainly have improvements—perhaps great prizes. The man who can get a grape of a quality equal to or better than the Isabella, which will ripen in August, and be perfectly hardy and prolific, has achieved a fortune of at least five thousand dollars

on that day. What we need, what I believe we shall have, is a hardy grape that will ripen in August.

Let me say, while I think of it, that if a grape ripens in the time of the intense heat incident to late August, or early September, the quality is immensely better than the same grape ripened a fortnight later, even though no frost intervene, but only the cool nights, the fogs and cold rains, incident to that season. In other words, you will find the grape to ripen more in three hot days at the end of August, than in ten or twelve days of weather not absolutely frosty, not checking the growth, but less propitious by reason of the coolness of the air, and too much moisture. The sugar is more abundant, the sap of the grape is changed into its ultimate properties more rapidly, there is more flavor, a more delicate and more vinous flavor, and it is better in every way. Therefore, we want an August grape, and that unquestionably we shall have. Plant seeds, then, gentlemen, and grow the grape; and whoever gets that August grape will make a fortune that day, besides having done the public a great service, which will be equally a satisfaction to him.

I do not speak of cross-breeding, because there are difficulties attending it. As I have said, two gentlemen of this city have been, so far as I know, the only persons who have absolutely succeeded in obtaining true hybrids, as they call them, between foreign grapes and natives. Accidentally, hybrids may happen. I use that term hybrid from habit, and because it is the word in common use; but cross-breeding is the proper term. If the stamens of one grape are defective, and there is growing near it, and over it, a grape having perfect stamens, if at the time of inflorescence, the pollen of the upper grape happen to be shed upon the pistils of the lower grape, then true cross-breeding takes place, spontaneously. That is possible. But practically and really, it is so difficult to impregnate one grape with another, it is a work of such delicacy, and art, and skill, that I do not recommend it to you, because you would be likely to be deceived into the idea that you had got a cross-breed, when perhaps it was only a direct descendant. I would rather leave it in the hands of Mr. Rogers, who has achieved such eminent success, and who, if the thing can be done in that direction, is sure to do it.



Gentlemen, I have detained you too long; but if you will allow me, I will read to you a few statistics compiled from authentic sources in Europe, and published by Colonel Haraszthy, a gentleman, whom the State of California sent out to Europe, to obtain from there all kinds of vines which he supposed could be grown in California, with a view to making the grape a staple in that State. You will see from these figures what an immense interest it is to be developed, and although the price—twenty-five cents a gallon—seems to be an insignificant price, yet the cultivation of the grape, in all those countries where it is possible, is found to be so much more profitable than grain or any other crop, that every rod of ground, every rocky corner, though they have to break it up with pick and spade, is planted with grapes.

Here is a copy from the records of the Agricultural Society in Wirtemberg. These records, dating from the year 1246, are, from that time up to 1420, very meagre and much interrupted; but from 1420 up to 1852 quite correct and complete. During those 480 years, there were, as to the quality of the wine,—

Those eminently distinguished, only	. . . . .	11
Very good years for a good wine, .	. . . . .	28
Pretty good ones for a good wine, .	. . . . .	118
Middling quality wines, .	. . . . .	76
Inferior quality wines, .	. . . . .	199
Total, . . . . .		<hr/> 432

Concerning the productiveness, there have been—

Years of ample yield, . . . . .	114
of middling yield, . . . . .	18
of poorer yield, . . . . .	99
of failure, or yields not paying expenses, . . . . .	201
Total, . . . . .	<hr/> 432

The aggregate number of acres under wine cultivation in Europe is 12,285,780.

The total aggregate yield per year in Europe is 3,107,039,000 gallons.

The wines of Germany would bring, at 25 cts.

per gallon,	. . . . .	\$13,026,250 00
And those of other countries,	. . . . .	763,733,500 00
Together,	. . . . .	<hr/> \$776,759,750 00

The statistics in regard to the quality of the wine and productiveness relate only to Germany. Other tables show that in Italy and the south of France the wine crop is not only more abundant, but more constant and more profitable than in Germany. But although Italy is the very garden of the vine, and some of the choicest wines are produced there, such is their careless habit in the manufacture, that they furnish very few wines of indubitable excellence for export. Yet the annual product per acre in Italy exceeds that of any wine-growing district in Europe—431 gallons to the acre; while the product in France is from 200 to 250 gallons to the acre, according to the season; and that of Germany is 136 gallons to the acre.

Now, if under these circumstances of low prices and almost half the seasons unfavorable in Germany, grape-growing is still the most profitable agricultural pursuit, I think we may go on with the absolute assurance that we cannot fail to succeed in making the crop profitable, and more profitable than any other crop; and very possibly we may find the alternative that will keep our children at home. Grape-growing is the poetic phase of agriculture. The culture is easy, the harvest is delightful. Except ploughing the land once or twice during the season, the women and children could take the whole care of the vineyard, and when at last the crop is harvested, the product from a single acre is often more than the product of a whole farm besides.

Take another point of view. Many a poor man finds it difficult to support his family and educate his children as the circumstances of the time and the advancing standard, which is ever rising, make it necessary they should be educated, and spends his life-blood in merely keeping the place which he has bought, merely succeeding in educating his children, with the most severe toil. Let him have his half acre or acre of grapes, from which he would get, possibly, \$1,500—\$2,000 has been realized,—surely, \$500 per annum; and you can see how that moment, you lift that man, who was a slave to the ground, to

competency and independence. Of course, his income will give him leisure for reading, enable him to buy books, and cultivate his love for art and literature, and make him such a man as an intelligent American citizen ought to be. I confess to you, gentlemen, that that aspect of the case gives me more pleasure than all others.

Mr. RUSSELL, of Salem. I would like to ask Mr. Bull whether the Concord is a seedling of the fox grape, the Isabella, or some cultivated variety.

Mr. BULL. The Concord grape is a seedling from a seedling of the wild grape. I do not wonder that my friend asks whether it is a seedling of the wild grape or the Isabella, because it is so common to suppose, from certain resemblances it bears to the Isabella, that it is a seedling of that.

Professor AGASSIZ. How does it behave to other grapes, as to cross-breeding?

Mr. BULL. I crossed the Chasselas and Black Hamburg with the Concord, at the earnest solicitation of Colonel Wilder, and succeeded in getting true cross-breeds. They were planted out and sheltered for the first year. One hundred vines grew. The next year they were exposed, without protection, because I did not want tender vines, and all of them but one died. That is a cross between the Chasselas and the Concord, and although alive, it is feeble to this day. That is, it makes a small growth of wood, and needs protection.

Professor AGASSIZ. How far are the various cultivated grapes traceable at this moment to their wild stock?

Mr. BULL. I do not know a single one whose history is so securely established that we can trace it to any wild stock. The "Clinton" is supposed to be a child of the Frost grape, and the "Elsinburgh" of the Riparia, or river grape; and that, I suppose, is as far as we can go. We have the Muscadine at the South-West, to which several of our new grapes are referred, but so far as I know, it is all guess work.

Mr. RUSSELL. I would ask if it is not all guess-work with reference to this matter? For instance, Mr. Bull says the Concord is a seedling of a seedling of the Labrusca. Was that seed gathered in the woods or in his garden?

Mr. BULL. I have always stated that the first vine was an accidental seedling, growing on the line of a fence where the

birds or the boys had probably dropped the seed. That was the wild grape, and undoubtedly the *Labrusca*. There was not then a vineyard in Concord. There was not a vine of the *Isabella* growing within a mile of me at the time. I had in my own garden vines that I carried from Boston which I could not make succeed. I had the *Catawba*, the *Isabella*, the *Chasselas*, and the *Black Hamburg*.

Mr. HASKELL, of Ipswich. A few of the theories espoused by Mr. Bull are not sustained by my experience. In the year 1851 I commenced planting the seeds of the wild grape, the best that could be found in our vicinity—the *Labrusca* it is called, although I think there is but one species in the country. From these seeds I produced thousands—perhaps tens of thousands. I had a large body of them; and from them all there were only two or three that I thought worth propagating or preserving, and I have them still. They are quite good for a swamp grape, but not worth cultivating. Finding that did not succeed very well, I then commenced grafting the foreign upon the native, and the native upon the foreign, under glass, planting the seeds of the vines that were inarched. Those seedlings did not succeed any better. The foreign grape matured upon the native stock was not hardy at all; the vines all perished in the winter. I then instituted another experiment, by inarching upon a growing shoot. After a bunch had just been formed upon the foreign, I inarched the native shoot over the foreign fruit. I then took from the foreign vine its own foliage, compelling the fruit to be matured and nourished by the native foliage. I continued that experiment year after year; and after the vines had become well united, I severed the foreign vine from its own root, so that it would be the foreign seed, maturing its growth and ripening its fruit on the native root and under the native leaf. But that did not harden the seedlings. They all mildewed—and that means winter destruction; for any vine that will mildew will perish in the winter.

A year or two ago I began cross-breeding, using the pollen of the foreign upon the native, and the pollen of the native upon the foreign. I have hundreds of those. They have not, however, yet furnished any fruit. It is only four years since the first was put out. But one fact is clearly established: it hardens the foreign vine. I have stocks from the *Moselle*, the *Frontignan*.

and the Black Hamburg, that were only three years old last winter, upon a four-foot trellis, that were not protected at all. They went through the summer without mildew and the winter without injury. But another effect of the cross-fertilization has been very unfortunate. The vines were so thrifty that I thought it was too bad to lose the wood until they bore fruit, and I took cuttings from them which I set out last spring. When the select vines from these cross-bred seedlings, upon which I depended so much, began to show their clusters, I was still more encouraged by the size of the clusters, which equalled the foreign ; but every one of those seedlings had imperfect flowers—conclusive proof of cross-fertilization. One of the Black Hamburgs set fruit that grew to the size of pigeon berries, but they did not come to anything. It has been a matter of excessive labor and care, and what will come of it I cannot tell. I have not found any fruit yet that I thought worth cultivating ; but I think that is the only way of getting one. On sandy soil the Concord is a good grape, but in our heavy, clayey soils it is but a little improvement upon the native grape. By cross-fertilization I think we shall obtain something good in fruit and hardy in vine. We have two or three varieties, as I call them, of the wild grape very abundant in our town. This pigeon grape is really a weed on my premises, and in the lower grounds we have the Labrusca and the fox grape. I think, however, as the gentleman from Concord suggests, that it would be well to have experiments carried on in every direction, and for every gentleman to put in seed. I plant the seeds of all the good fruit I eat ; and if every farmer would save the seeds of the fruit, which he eats at his table, and plant it in some out of the way place, covering it for a time so that the young shoot shall not be browsed by every calf that comes along, or trodden down by the children, we should have grapes by-and-by as abundant as grass. I have now twenty-four different crosses. I have the native on the foreign, the foreign on the native ; the pigeon on the foreign and the Labrusca on the foreign, and the reverse of that ; the black on the white and the white on the black, to see what influence that might have upon color. I have got 421 vines, every one of which is subjected to careful examination as to mildew and everything about it ; so that, if a vine bears fruit



that appears to be good for anything, I can know whether it has ever mildewed or been winter-killed.

A gentleman inquired of Mr. Bull whether he had raised any seedlings from his Concord grapes, and how many proved abortive.

Mr. BULL. Not less than nine-tenths. One-tenth would produce fruit, and one in a hundred would be good—worth saving. I have kept a record of everything I have done in this matter, in order that my experiments, successes and failures should not be lost to other experimenters.

Adjourned to Thursday at 9 o'clock.

THURSDAY, December 18th.

The Board met at the hour of adjournment, JOHN B. MOORE, of Concord, was chosen President, *pro tem*.

On motion of Mr. Bull, it was voted, that when the Board adjourns this evening, after the lecture by Dr. Nichols, it adjourn without day.

HENRY K. OLIVER, of Lawrence. As the discussion proceeded yesterday in regard to the rearing of horses and herds, it appeared to me that I had heard or read something near akin to the general strain of remarks, and I cudgelled my memory to see where it could be I had met with it. On going home last night, I went to my library and took down an old book, and on turning over two or three pages, I found the germ, the small germ, perhaps as small as the turtle's eggs that Professor Agassiz referred to yesterday, of what was said here on the subjects to which I have alluded. The world is said to be repeating itself all the time, and it occurred to me that there had been just that unconscious repetition here, and I thought it might amuse the audience if I should read a few lines, which express just what was brought out yesterday. This is a very old writer. He has been dead a great many years. He lived in the times of the best literature of Rome, about the time of the Emperor Augustus, not far from the date of the birth of Christ. He left four treatises on agriculture. I see by the smiles of some gentlemen that they have guessed to whom I refer. They say, "We guess he has pulled down the writings of old Virgil." You are right; and it is singular how the

current of remark that was developed yesterday, finds its analogue in this old book.

"A time will come, when my maturer muse,  
In Cæsar's wars, a nobler theme shall choose,  
And through more ages bear my sov'reign's praise,  
Than have from Tithon past to Cæsar's days.  
The generous youth, who, studious of the prize,  
The race of running coursers multiplies,  
Or to the plough the sturdy bullock breeds,  
May know that from the dam the worth of each proceeds.  
The mother-cow must wear a low'ring look,  
Sour-headed, strongly-necked, to bear the yoke.  
Her double dewlap from her chin descends,  
And at her thighs the pond'rous burden ends.  
Long are her sides, and large; her limbs are great;  
Rough are her ears, and broad her horny feet.  
Her color shining black, but flecked with white;  
She tosses from the yoke; provokes the fight;  
She rises in her gait, is free from fears,  
And in her face a bull's resemblance bears;  
Her ample forehead with a star is crowned,  
And with her length of tail she sweeps the ground.  
The bull's insult at four she may sustain;  
But, after ten, from nuptial rites refrain.  
Six seasons use; but then release the cow,  
Unfit for love, and for the lab'ring plough.

Now, while their youth is fill'd with kindly fire,  
Submit thy females to the lusty sire;  
Watch the quick motions of the frisking tail;  
Then serve their fury with the rushing male,  
Indulging pleasure, lest the breed should fail."

\* \* \* \* \*

"Yearly thy herds in vigor will impair;  
Recruit and mend them with thy yearly care;  
Still propagate, for still they fall away;  
'Tis prudence to prevent the entire decay.

Like diligence requires the courser's race,  
In early choice, and for a longer space.  
The colt that for a stallion is design'd  
By sure presages shows his gen'rous kind:  
Of able body, sound of limb and wind,  
Upright he walks, on pasterns firm and straight;  
His motions easy; prancing in his gait;  
The first to lead the way, to tempt the flood,  
To pass the bridge unknown, nor fear the trembling wood;

Dauntless at empty noises ; lofty-necked ;  
 Sharp-headed, barrel-bellied, broadly-backed :  
 Brawny his chest, and deep ; his color gray ;  
 For beauty, dappled ; or the brightest bay :  
*Faint white and dun will scarce the rearing pay."*

I think that point will be remembered, as having been pretty thoroughly settled yesterday.

" The fiery courser, when he hears from far  
 The sprightly trumpets, and the shouts of war,  
 Pricks up his ears, and trembles with delight,  
 Shifts place, and paws, and hopes the promis'd fight.  
 On his right shoulder his thick mane reclin'd,  
 Ruffles at speed and dances in the wind.  
 His horny hoofs are jetty black, and round ;  
 His chine is double : starting with a bound  
 He turns the turf, and shakes the solid ground.  
 Fire from his eyes, clouds from his nostrils flow ;  
 He bears his rider headlong on the foe.

\* \* \* \* \*

" But worn with years, when dire diseases come,  
 Then hide his not ignoble age at home,  
 In peace t' enjoy his former palms and pains,  
 And gratefully be kind to his remains.  
 For, when his blood no youthful spirits move,  
 He languishes and labors in his love ;  
 And, when the sprightly steed should swiftly come,  
 Dribbling he drudges, and defrauds the womb.  
 In vain he burns, like hasty stubble fires,  
 And in himself his former self requires.

" His age and courage weigh ; nor those alone ;  
*But note his father's virtues, and his own :*  
 Observe if he disdains to yield the prize,  
 Of loss impatient, proud of victories."

I was struck with the resemblance of these lines to what was said yesterday, and thought it might be interesting to the gentlemen present to hear them.

#### ROOT AND OTHER FIELD CROPS.

Mr. HUNTINGTON. I have been requested to open this discussion, and I must preface what I have to say with the remark, that, as the gentleman has just said upon another topic, there is very little that is new to be said upon this subject. Our agri-

cultural reports embody about all our information upon it, and they are accessible to almost every one. But it is worth something, perhaps, to make a declaration of belief. There is certainly a want of faith in the cultivation of root crops generally, and it is necessary for us occasionally to make our declaration of belief in their utility. It is worth something to impress this fact upon the minds of those who hear me ; as much so as it is necessary for the minister, though he may have nothing particularly new to say from Sabbath to Sabbath, to repeat the old truths, until he shall impress them upon the minds of the community. Therefore I want to express my hearty belief in the utility and value of the root crop for cultivation. I do not believe that roots are cultivated half enough. We admit the importance of this crop in one particular, at least. It cannot be denied that the potato crop, at least, is of great importance, when we know that a few years since a whole people came very near starvation on account of the failure of that crop. It would be a superfluous work for me to attempt to convince the farmers of Essex County that they ought to raise potatoes. Every man must have his field of potatoes as much as his field of corn or his grass field. If I could claim that I had some plan of raising the potato by which the crop would be increased one-quarter or one-third, I have no doubt I should be listened to with interest, whether I made out my case or not. But I do not propose to speak of the potato crop, because it is unnecessary to impress upon the people the necessity of raising it ; and I suppose the object of the discussion to-day is more particularly to show the value of roots as stock feed.

I alluded to the want of faith in the value of the crop. There are certain objections in the minds of people to the more extensive cultivation of roots, and one of those objections is the uncertainty of the crop ; and I have no doubt there is something in it. You go among the farmers and inquire why they do not raise carrots, or turnips, or ruta-bagas, or beets, and they will tell you they do not succeed with them—that they do not pay. Their experience, perhaps, may have been very similar to what mine has been within the last eight or ten years. Some eight or ten years since I went on to a new place. I had always been used to raising roots, more or less, and I was the more anxious to do so then, because I wanted to break up land,

and in order to do that I wanted to make manure. I knew I must keep stock, and the only way to increase the capacity of the farm for raising stock was to increase the crop of roots. I went into it to some extent. I began with ruta-bagas, and succeeded very well for two or three years; but finally the crop, from some unaccountable cause, took to rotting, and failed. They began to rot more or less before I gathered them, and continued to rot after they were gathered, so that I became discouraged in regard to that crop. I did not know how to manage it, and do not know. I do not know whether the rot was merely a temporary evil or not. Then I determined to try other kinds, and took carrots and beets. I succeeded very well with carrots for two or three years; but then came a year in which I had prepared my ground with the usual care, and my crops came up, but they did not grow; and when I came to gather them in the fall, the carrots were little things, not bigger than my finger. That discouraged me, and I suppose it would any farmer, because there is a good deal of expense attending the preparation of the ground and the cultivation of the crop, and if there is a failure in the end it is discouraging.

Another objection is the character of the labor required. We all know that there is a great deal of labor and expense involved in cultivating a crop of roots as it ought to be cultivated; and I do not know how it is, but farmers generally have a distaste for getting down so near the ground as is necessary to bring forward and cultivate a good crop of roots, unless they are very sure it is going to pay them an extraordinary profit.

Another objection urged is the want of value in the crop. Some farmers will tell you that the roots are most all water; that they don't amount to much after you have raised them; that there is so large a percentage of water that you had better raise Indian corn or something more solid. But I have noticed one thing in regard to that—they do not make that objection about potatoes, because we want potatoes for our own use, and will have them if they cost a dollar or a dollar and a half a bushel. We think they are necessary to our health and comfort; but we do not reflect, it seems to me, as we ought, that they must be just as necessary to the health and comfort and the economical feeding of our stock as to ourselves.



Now, in regard to the best manner of cultivating the crop. I have nothing new, perhaps, to say on this subject. I can only give you the result of my own experience. There are several things that ought to be attended to with great care, and one is the selection of seed. This is a matter which I consider of prime importance; for if you happen to get poor seed, or seed that will not germinate, your whole operation is frustrated in the beginning; you are thrown off the track, and do not know what to do with your land if your seed does not come up. In my own case, if I do not get a good start of the seed, I have almost always found that I do not succeed in getting a good crop. Therefore I consider the obtaining of proper seed a matter of prime importance, and I suppose there is no surer way of doing it than for a farmer to raise his own seed. If he does, then he ought to select carefully the best specimens among his roots—those that are of good size; that grow smooth, and fair, and sound. In that way he will be pretty sure of getting seed that will not disappoint his expectations. If he is obliged to buy, he ought to take the greatest pains to get his seed of a reliable dealer. I know it is a difficult matter, for I have been many times disappointed in this particular myself. I have bought turnip-seed, for instance, and got for a crop something that would run to top, but make no root—a great coarse, good-for-nothing thing. I was told, only a day or two ago, of a gentleman, a member of the Board, I believe, who bought in Boston a very nice marrow squash, which he was told by the man who sold it to him was a genuine article, raised by himself. He took the squash home, saved the seeds, planted them by themselves, so as to be sure of having a nice crop of squashes, took a great deal of pains, and did have a good growth; but when they began to set he found that three-quarters of them were very good pumpkins, and not squashes. This shows the importance of getting good seed to begin with.

Then the next thing is the proper manuring and proper cultivation of the soil. Here, again, perhaps I may as well give my own experience; there are others who will give theirs. I have succeeded best in applying my manure in a green state, or taking what I have made through the summer on to the land in the fall, and covering that manure by ridging the ground; not ploughing the whole ground, but throwing one furrow upon the

crown of another. The advantages of this, I think, are that it covers the manure sufficiently to insure partial decomposition by the time you want to prepare the ground in the spring. The land is then in a light, friable condition; you can break up the furrows by cross-ploughing, and the ground is very easily fitted for the reception of seed. I think that manure tells better on a root crop applied in that way than in any other. I think you can get a better article—certainly you can of some kinds of roots—by using manure partially decomposed in preference to that which is fresh and green. In addition to the barn manure, unless my land is in a high state of cultivation, I use some kind of special manure in the drill when I sow my seed. I have found nothing better for this purpose than good superphosphate. The after cultivation of the crop consists in keeping the weeds down; and we all know that if we do not pay attention to that, at just the right time, we injure the crop seriously. Farmers are very apt to neglect their root field for a few days; and if they do neglect it for a few days, at certain seasons of the year, it is most disastrous to the crop; or, if that is not the result, it increases very materially the expense of cultivation. You take a field of carrots that is nearly covered with weeds, and undertake to get those weeds out thoroughly, and you damage the crop, if not quite as much as you do the weeds, to a great extent at least. Therefore, I say, a field of roots never should be suffered to get weedy. It is in vain to expect to get a crop without thorough cultivation.

Then in regard to gathering and using the crop. A great deal may be done in the way of economizing the labor by a proper arrangement. I do not know what the common practice is in regard to topping them, but in my case I have found nothing better, in harvesting carrots, than to go along with a hoe and take the tops off with that. I then plough a furrow as near as I can to the side of the row, and take a spade or shovel and raise the roots. They are then easily pulled out, thrown into heaps, and put into the cart. Roots are gathered with great facility in that way. There should be a scuttle to the cellar under the barn, so that whole cartloads can be put down at a time. Every arrangement that can be made for the easy handling of this crop is a matter of great importance, for this is one

of the principal objections we find to many of these crops—the labor required in handling them.

I want to say a few words in regard to the common English turnip. I think those who are inclined to go into the cultivation of roots may very well begin with this; and I am sure they might manage it in such a way as to involve very little labor or expense. I know very well it is one of the least valuable of all our crops; but then, again, it is the one most easily raised. A piece of sward land, after the grass is taken off, may be turned over, and three or four hundred pounds of phosphate applied in the drill. I would not sow broadcast; I do not consider that the best way. I would drill in the seed, and put this superphosphate as near as I could in contact with it. I have found that almost a sure way of raising turnips. I never have failed to raise them. It seems to me just as sure an operation as any other farm operation we can undertake. This last season I had a small patch of onions, which, because I had no manure for the piece at all—starting a new place entirely—I manured with superphosphate. I spread it on in pretty large quantities broadcast, and put it in the drill also, and sowed my seed. The onion crop did not do very well on account of the ravages of the worms and maggots, and about the last of July I went on to the field and sowed a few turnip seed. The ground had been cleaned up so thoroughly that no weeds of any consequence grew afterwards, and I had as fine a crop of turnips as I ever raised in my life—very large, very fine, and very sweet. I have done the same thing before, and have got at the rate of five or six hundred bushels to the acre. All the labor there was about it was sowing the seed and gathering the crop, very little more than it would be to go into the field and mow grass for your cows and cart it to the barn.

As I said before, I have nothing new to say upon this subject. What I have said is merely by way of opening the discussion. Other gentlemen are much better able to carry it on than I am.

Mr. PERKINS. I wish the gentleman would tell us what time he put in the ruta-bagas, and when they commenced rotting.

Mr. HUNTINGTON. I planted them about the twentieth of June. I managed the crop just as I always had, and have no means at all of judging why it operated as it did. And with me it grew worse and worse. The first year the crop was very

good ; the next year they did pretty well ; but I could see now and then, in the crown of the root, a defect. The next year they did not bottom near so well, and rotted a great deal more.

Mr. PERKINS. How large were they when they commenced to rot, and in what season of the year was it ?

Mr. HUNTINGTON. Along in September, after they got well growing. Some of them would be quite large. I did not observe much about it until a few weeks before I began to harvest them.

Mr. BULL. Were those crops grown upon the same ground each year ?

Mr. HUNTINGTON. No, sir ; new ground.

A MEMBER. What, in your judgment, is the value of the common English turnip compared with the ruta-baga ?

Mr. HUNTINGTON. I cannot tell anything about it from experiment. All I judge from is by what chemists tells us. I think that the ruta-baga contains only about ten per cent. of nutritive matter. Is it not so, Dr. Loring ?

Dr. LORING. So it is stated. I do not know the comparative merits of the two, except that the ruta-baga is a root for storage and long feeding ; the English turnip is not. It does not amount to anything after the early part of the season. It is a root you cannot keep to advantage.

Mr. HUNTINGTON. I forgot to mention one way in which I know of the English turnip being raised to pretty good advantage very cheaply. I do not know whether it has ever been practised in this part of the State or not. A neighbor of mine, when he wants to lay down a piece of land to grass, where the land is in pretty good condition, will sow turnip seed with the grass seed. Of course he does not cultivate it at all, and in that way he secures a pretty good crop of turnips without any labor, except gathering them in the fall, and without any injury to the grass next year.

A MEMBER. How do you prepare your turnips for the cattle ? Do you take pains to remove the dirt from the roots ? If the land is rather wet when they are gathered, there will be quite a quantity of dirt that will remain on the turnips. Do you take pains to remove that dirt, or do you cut them up with the dirt that adheres to them ?

Mr. HUNTINGTON. I generally get rid of the dirt in this way. I pull up my turnips in the field and let them lie for a number of days. I think they keep a little better in the cellar if they are a little dry on the outside. In handling them over the dirt will mostly come off, unless they are very dirty. I never have found it necessary to take off the dirt in any other way.

Mr. STEDMAN. I want to inquire of the gentleman in regard to the seed of his ruta-bagas—whether it was seed of his own raising, or whether it was imported each year?

Mr. HUNTINGTON. I think the seed I used was some I bought. I should not think it was imported seed.

A MEMBER. Carrots, according to analysis, are not worth quite so much as ruta-bagas. I think carrots have about eight per cent. of nutritive qualities, ruta-bagas ten, and the common turnip about six. The carrot is not worth so much for feeding purposes as we generally give it credit for.

A MEMBER. I would inquire if that is the general opinion among those who have fed the carrot and ruta-baga? Whether they do not consider the carrot worth more, taking all classes of stock into consideration, than the ruta-baga?

Mr. HUNTINGTON. I never have made any experiments to ascertain that fact. I only know what chemists tell us. It may be that it is worth more for feeding than the ruta-baga, though analysis does not show it.

Mr. STOCKBRIDGE. I wish to inquire what effect it has upon the subsequent crop to raise root-crops upon the land? If you raise English turnips or ruta-bagas upon a sandy loam, what effect does it have upon that soil for the subsequent crops? That is the first question we ought to settle. It may be that it would injure a sandy loam very materially to grow turnips upon it, while it might not injure a clayey loam. I wish gentlemen would answer this question according to their experience.

Then, again, after having secured the crop, I desire to know how that crop shall be stored: whether you are to pile those roots in the cellar, one, two or three thousand bushels in a pile.

Then the next question is, in relation to feeding. What is the best method of feeding turnips? Shall they be cooked, or fed in their raw state?



These three points I would be pleased to have brought clearly and distinctly into the discussion; and there may be many others here who would like to have those questions answered.

Mr. BENJAMIN P. WARE, of Marblehead, having been called upon, said :—

I have had some experience in the raising of roots, and I will endeavor to relate it. I was very much interested in the gentleman's (Mr. Huntington's) remarks, with reference to his experience. They agreed, in many respects, entirely with my own; but I think in some particulars, we, in Marblehead, have been able to make some improvements, particularly in the harvesting of carrots. He said he topped them with a hoe, ploughed a furrow as near as possible to the row of roots, and then loosened the roots with a spade or fork. Our method is to top them, either with a hoe or shovel, (we generally use a shovel,) and then use a subsoil plough; and so far as my experience goes, it is the only use to which a subsoil plough can be put to any advantage in our county. Previously to ploughing, the tops are raked off the field, so as to be entirely out of the way. We then run the subsoil plough directly by the side of the row of roots, which lifts them out of the ground about two inches; then with potato diggers, forks or hoes, we go along and rake them out, so as to lift them from the ground, and throw them inward, leaving room for the team to go through again. We first turn a back furrow in the centre of the piece, and go round that back furrow, drawing the carrots into the centre, and leaving a space for the horse or ox to travel, without treading upon the carrots. That leaves them spread all over the surface of the ground. We do that in the forenoon; work until noon ploughing out; and in the afternoon, we pick them up, throw them into the carts, and put them into the cellar. As the gentleman suggested, that gives about half a day's time for the carrots to dry; and in picking them from the ground and throwing them into baskets, the dirt is mostly shaken off; so that, if the weather is suitable,—and dry weather ought to be chosen for the harvesting of roots,—they will go into the cellar dry, which, in my opinion, is very important.

Mr. HUNTINGTON. This subsoil plough is used on the left side of the rows?

**Mr. WARE.** Yes. The lifting principle of the plough is on the right-hand side, and that just lifts the carrots out of their beds. You must be sure to go deep enough to reach the carrots. Sometimes the plough will run a little too low, and break off the tips of the carrot, but that we do not regard as of any consequence.

The variety of the carrot is very important. I liked very much the remarks of the gentleman with regard to seed. We think the whole success of our crop depends upon the seed we sow, and we invariably raise our own seed; or, if by any accident we fail, we go to a neighbor, whose crop we know about, and depend upon him. The last resort of all is the seed store. We have a carrot, by the way, that is a slight variation from the long orange carrot, so-called, that sometimes grows very long, and the short-horned carrot, which is rather short; though the horned carrot, I believe, will produce about as large a crop as the orange carrot. It is a heavier root, so that twenty-five bushels of the horned carrot will usually make a ton, while forty bushels of the orange carrot are required to make the same weight. Therefore, if we don't get so much bulk with the horned carrot as with the orange, we get an equal weight, which we most desire.

With regard to storing carrots, we think it is very important to avoid harvesting root crops until as late in the season as possible. I myself usually commence about the 1st of November, feeling that it is safe to risk the roots in the ground until the 10th or 12th of November. I don't like to be caught with my roots in the ground later than that, although oftentimes it would be safe to leave them in later. As far as my experience goes, it is safe to risk them until that time; and by putting them into the cellar as late as possible, heat is avoided. Of course we have to stow them in large bulk, and if it is warm weather, they will sweat and grow and rot in the cellar. Therefore I put off getting them in as late as possible, and after they are in the cellar, I am very careful, on cold nights, to open the windows and scuttle-doors, to get as much air in the cellar as possible; and if we have a warm rain, I close the cellar up as tightly as possible to avoid that; and in that way, I usually manage to keep my crops without heating at all. Ruta-baga turnips are more liable to heat, I believe, than almost anything

else. They seem to have a quality that generates heat in themselves, and they require more care, I think, than carrots, or perhaps any other root.

My opinion in regard to the value of the different root crops is, that carrots are superior to ruta-bagas for the general feeding of stock. I prefer that crop to any other root crop, not only because of its superiority in value, but I think it leaves the ground in better order for future crops, than almost any other crop we can raise. It seems to me that it exhausts the land very much less than a mangold wurzel or ruta-baga crop, and, I think I may say, than any other crop.

One word in regard to ruta-bagas. The gentleman told us he sowed them the twentieth of June. I think that is the secret of the rotting of his crop. Ruta-bagas sown early will mature early, of course, and will very frequently get what we call lousy. They get diseased, the tops turn white, and I have known them frequently to rot. Ruta-bagas and turnips that are sown for the early market, if they are not all harvested before fall, are very apt to get into a diseased condition. The best ruta-baga crop I ever raised, I think, I sowed after harvesting my early potatoes, which must have been as late as the 25th of July, and I think later than that. The land was in good order, of course, rich, and the turnips grew rapidly, were very handsome and smooth, and a very large crop, with no labor except harrowing the ground, sowing the seed, and perhaps hoeing once—very little labor indeed, and a very handsome crop secured. Our method of raising the English turnip invariably is to sow them after gathering a crop of early potatoes; and, by the way, in our vicinity we raise very little else than early potatoes. Our object is to get our crop into the market before they can come from the East, thereby securing a good price. The whole crop raised in our town this year brought from three to five dollars a barrel, which was a good price, and made a very profitable crop.

I believe the gentleman (Mr Stockbridge,) inquired with regard to the feeding of roots—whether it is best to give them steamed or raw. If I am fattening hogs, and want to give them meal and grain, I cook the roots and mix the meal in, so that is all cooked and steamed. I think for fattening hogs cooked meal is better than raw. But I will state that I have kept suc-

cessfully, for years, store hogs and breeding sows, from November until March, with nothing at all but raw mangold wurzels. On one occasion I had an old breeding sow, of the Chester County breed, that was fed with these mangold wurzels immediately after taking away the litter of pigs, and in March she was really too fat for breeding purposes. I don't approve of feeding raw roots to small pigs; I don't believe they would thrive; but store hogs, weighing from 125 pounds upwards, will thrive well on raw mangold wurzel, and nothing else, from November until March, and even later, if the pigs don't come so early. I think that fact proves that raw roots are good for stock of all kinds and hogs. In my own opinion it would be more desirable to steam roots for hogs than for horned cattle. After my hogs have been accustomed to feeding upon raw roots, I have cooked them, without making any addition, and they would prefer the raw roots to cooked ones.

Another reason for my preference for carrots, is that I can get, I think, larger results, with the same labor and cost, than from any other root. It is not uncommon with us to raise more than thirty tons to the acre; I myself have raised between thirty-five and thirty-six tons of carrots to the acre; and less than twenty-five tons would be considered a small crop with us, which, I think, is larger than you would get from perhaps any other root. Mangold wurzels, no doubt, would exceed that; but with turnips of any kind I think it would be very difficult to get anything like that amount. I raise mangold wurzels with carrots, from the fact that I have found them so valuable for store hogs; but the large proportion of roots that I raise is carrots.

A MEMBER. Do you raise two crops?

Mr. WARE. No, sir. As to the time of sowing carrots, I think that very important. If they are sowed too early, they, too, will become lousy and diseased, and there will be more or less rot among them. My rule for sowing carrots is the 25th of May, or as near that as possible. If for any reason it is postponed until the first of June, I care but very little about it. But the 25th of May is the time. The difficulty about sowing the first of June is, that I have noticed, and have sometimes been caught, that the first ten days of June are apt to be very dry, warm weather. If they are, the carrots, when they come

up, are so delicate and small that they are very apt to get sun-burnt and destroyed. Were it not for that, I would as soon sow the first of June as the 25th of May.

I like to sow just the amount of seed that I desire to have grow, to avoid the necessity of thinning. Thinning a crop requires as much labor as once weeding. If you can sow just the required quantity you have saved that labor. Three and a quarter pounds of seed, if sowed properly, is enough for an acre. I raise and prepare my seed myself, and know that every seed I put into the ground will grow; and I can regulate my machine so that it will not vary two ounces from the quantity of seed that I require for an acre. I use Willis's machine, which, I think, is the best. I have made one of my own, with a double hopper, and sometimes, if I think best, I sow with the seed some special fertilizer; though I am very sorry to say that some of those special fertilizers that I have bought and paid for and sown have not amounted to anything at all. But I have used fertilizers in that way, and I have a machine made with a double hopper for the purpose of sowing the fertilizer and seed at the same time; and if the fertilizer is good for anything, it is just exactly where the seed is, so that the early plant will get the benefit of it.

With regard to manure, I liked the remarks of the gentleman with reference to applying it in the fall. I have myself, this fall, applied manure that I had made through the summer to about four acres, that I design for the root crop next year, and ploughed it in. It prepares the ground very nicely for the next year's crop, and helps very much the spring work, and we are always so hurried in the spring, where we attend to gardening, that if we can do a part of the work in the fall, it is a very great help. If we apply our manure in the spring, it must of necessity be composted; that is, pitched over two or three times, to have it tured, ripened and matured. I shouldn't think of raising a crop of roots from green manure. I should expect to raise a large crop of tops and a small crop of roots; but with matured, ripened, well-mixed manure, compost manure, the tendency is to roots rather than to tops; and by applying the manure in the fall, even if it is green, it will become properly matured by the time it is wanted for the plants. I never use less than six cords to the acre—seldom more than eight. From

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six to eight cords of good compost manure to the acre is my rule for manuring land for root crops. That seems to answer the purpose very well.

As for the depth of ploughing, I usually plough seven or eight inches deep, for root crops generally, with the exception of onions, for which I should not plough so deep.

Mr. HUNTINGTON. I would like to ask if you are ever troubled with the blast on carrots?

Mr. WARE. Very seldom. Early sowing would be very likely to affect the rows with blast; but sowing so late as the 25th of May, or the 1st of June, it is very rarely that they are so affected. By the way, in my opinion, October is the great month for the growth of roots. I think more than one-half of their growth is attained during the month of October; and if a crop, either of ruta-bagas or carrots, is sown too early in the season, it becomes so mature, and begins so to ripen and harden, and sometimes to send up seed stalks, that when October comes, the very month in which they should make their growth, to insure a rich, tender and juicy root, their game is up, they have nothing more to do. The very best month of the year is of no use to the early sown crop. Therefore I think the time of sowing is particularly important.

There is another thing which I omitted to mention. By sowing late in the season, we gain just about once weeding. I would have the ground ploughed once or twice, and harrowed between the ploughings once or twice, so that the weeds would have a chance to grow two or three crops before the crop is sowed, and we thus get rid of so much weed seed; so much has germinated and is ended. If you sow early, you have got that amount of weeds to contend with. This advantage is a very great point. Mr. Huntington's suggestion in regard to weeding was a very just one. Oftentimes, one day's work at the weeds, at the right time, is worth more than a week's work afterwards, and it is very important to do it just at the right time. If the weeds get large, it is a very great amount of labor to clean the ground. Aside from the damage that too late weeding does to the crop, it saves very much labor to do it just at the right time. We use, in our cultivation, what we call truckle-hoes. One man can do as much or more in a day, and do it very much

better, than two men with hoes. You are all, doubtless, acquainted with it. "Scuffle-hoes" some call them, on wheels.

Mr. HUNTINGTON. I would like to inquire in regard to the economy of raising roots for stock feeding. I don't know but the farmers in your section raise their roots for market. I would like to know their opinion in regard to the economy of raising them for stock.

Mr. WARE. We do raise for the market, but we don't neglect our own stock. I have in my cellar now more than thirty tons of roots that I intend to feed out. I have a very small farm, and don't keep a very large stock, although I have quite a stock of horses just now. But we never intend to sell roots to the neglect of our stock. We sell the surplus, but are sure to keep enough to feed our stock through the winter, and feed them liberally. It saves a vast amount of hay. Many of us—I myself for one—have to buy our hay, in part, and the raising of roots reduces my hay bill very much indeed, and stock will appear very much better when fed partly with roots. The idea of a peck of carrots being worth as much as a peck of oats is perfectly absurd. I have heard that idea suggested, especially in parts of the country where carrots are not very much grown. It is better for stock to be fed with carrots, in connection with hay and grain, rather than to be fed entirely with hay and grain. I think a portion of roots for all animals is not only economical, but keeps cattle and horses and all stock in better condition, better health and better heart; and I would never fail to have an ample supply of carrots and other roots, such as I would most desire to feed out through the winter.

Professor CHADBOURNE. What state do you like the tops to be in when you harvest the crop?

Mr. WARE. The carrot tops are usually in a green and growing condition; not, of course, growing so rapidly as they were in October; but I like to have my carrot crop not so far in advance as to have the tops dead or dying. I like to have them green. And, by the way, there is another point in the matter. I rake off my tops, after they are cut, and feed them out to my stock. Every particle is eaten by the cows and horses, so that the whole crop is saved. The tops would always be green and growing at the time of harvesting if sown at the proper time; but if sown early the tops would be of no value, and the bot-

toms of not much more value, comparatively. I don't think a healthy crop of carrots or ruta-bagas can be raised for winter, sown early in the season.

Mr. HUBBARD. I see the gentleman is master of his subject, and I wish to ask if he is ever troubled with green lice upon turnips?

Mr. WARE. Cabbages and turnips are very liable to become lousy. We had acres in our neighborhood a year ago, in August, that became so offensive from disease, (owing primarily to the drought—but the plants were affected with lice all through the fields,) that the wind coming from them was really troublesome and annoying. But in ordinary seasons the turnip crop would not be liable to that trouble; neither would cabbages, except in a very dry time.

Mr. HUBBARD. I found the same difficulty with my own cabbages and turnips. Almost every cabbage, at a certain season of the year, had these green lice upon it; and the same thing happened to my turnips. As soon as it became wet, the lice disappeared. The cabbage heads formed, but the turnip tops died. Have you any remedy for that?

Mr. WARE. I suppose weak brine would be a remedy, but it is so difficult of application that I should consider it impracticable. These lice are more commonly under the leaf than anywhere, so that it would be almost impossible to apply this remedy; and I don't know of any other that would be practicable. If we have unfavorable weather, we are liable to disappointment in our crops. We depend upon the season very much, and we grope our way in darkness: but still, with a little light. We usually have fair returns, but sometimes meet with disappointments, from unfavorable seasons, that we cannot control, and sometimes lose our crops from such causes. Oftentimes we meet with difficulties which we cannot combat. We know of no practical application that is a remedy, and we pocket the loss in such cases. I have seen no trouble of that kind this year, so that it is very evident that the dry weather was the cause of it.

Mr. SLADE. Is it not economy to raise carrots with onions?

Mr. WARE. I think not. I know that is practised in Bristol County, and in Rhode Island, in many cases. They cultivate onions very differently from what we do. They think their way

is the best ; we think ours is. I shouldn't think at all of sowing carrots with onions.

In regard to fertilizers, I will say that I have applied flour of bone to onions. Besides the double-hoppered machine that I spoke of for planting seed and fertilizer together, I have another that distributes the fertilizer directly on the row, after the plants have come up, as I thought a little additional nursing just at that time might oftentimes be beneficial. I have applied the flour of bone to onions in both these ways ; and in order to experiment with anything, I think it is absolutely necessary to use it on part of a piece of land and cultivate another part without it ; and if there is value in the fertilizer applied, you will see it in that way. I have tried this flour of bone on that plan, and I am very sorry to say I have been sadly disappointed, for my hopes were raised very high. I had read the advertisements of the agents of that fertilizer, and had received their books of certificates from men who are practical farmers, men whose authority should stand high, and I used the fertilizer with high expectations, but I must say I have been sadly disappointed. I believe that Peruvian guano is valuable, but when it comes to be valued at \$120 a ton by the dealers, I don't believe that any Essex County farmer can afford to buy it. I have used the "ammoniated Pacific guano." This guano, in its natural condition, lacks the ammonia, I understand, and the agent of the company which supply the article, presented me with their book of certificates, and also with a bag of their "ammoniated Pacific guano." They say that the ammonia is added in just exactly the proportions to meet the wants of all sorts of vegetables, and to make the barren field bloom and blossom as the rose. I received that bag of "ammoniated Pacific guano," confidently, and with high hopes. One of the gentlemen of that firm was present at the time of my application ;—and, by the way, he told me it was specially adapted to the turnip crop. At that time, I had sown my crop of turnips, and they were just out of the ground, and he wanted me to apply this fertilizer to the turnips and see what the result would be. I did so. I took him out to show him my method of application. I showed him my little implement, that dropped the guano along directly on the row—each row just such a quantity as I thought necessary, neither more nor less, and I asked him if he thought that was

the best way of applying it. "Yes, an admirable way." In the fall, I received a letter from the firm, requesting a statement of the results of my experiment with their "ammoniated Pacific guano" upon the turnip crop. I wrote them, in reply, that I had had a most admirable crop,—that the turnips were large and smooth,—a beautiful crop: but that I had never been able to discover the slightest difference between the crop from the land where the ammoniated guano was put, and that from where it was not put. I looked in vain for my certificate in their book of recommendations! It didn't appear there and I felt slighted!

Mr. OLIVER. Did you ever buy any "true, unadulterated" fertilizer or seed that answered the description of the seller?

Mr. WARE. I have bought seed sometimes that was good and sometimes that was not good. I avoid buying seed as much as possible. I have spent a great deal of money in fertilizers. I have got a good many barrels of flour of bone, Chicago bone, of Gould's muriate of lime, (the biggest humbug of the whole,) in my barn now. I bought them in good faith, I tried them in good faith, and the balance remains there. I hope some day I may find a use for it.

A MEMBER. I would like to inquire your method of growing early potatoes?

Mr. WARE. We plant our early potatoes in drills. We have got a hoeing machine, working with double revolving hoes, which, with the rows just three and a half feet apart, will do the work of hoeing better than it can be done by hand. First going through the rows with another implement, a horse hoe or cultivator, and then with this, it makes the labor of cultivating the potatoes very small indeed. If I were to plant potatoes just as I think the best way, I should furrow out the rows three and a half feet apart, not very deeply—say four or five inches—drop the potatoes about ten inches apart, (we cut the potatoes into pieces, having certainly two eyes on each piece, and if there are three it doesn't matter,) and then cover them with manure; after that the manure, potatoes and all may be covered with the plough, saving a great deal of labor. After that, wait some ten days, until the weeds have just started, little tender, delicate things, and then go lengthwise of your rows with a brush harrow, which will level down the furrows slightly, and just wipe



off the top of the ground, destroying the first sprouting of the weeds.

Mr. HUNTINGTON. About what time do you plant?

Mr. WARE. Just as early as the land will do to work. That, of course, depends upon the weather. I don't like to stir the land until it will work friable and light. I don't like to have it clammy when I work it.

Professor CHADBOURNE. Have you noticed any difference between planting potatoes when cut, and waiting some days until they become dry?

Mr. WARE. I cannot say as to that. It is very common with us to leave them several days. In the spring we are very busy, and if we have a rainy day we take hold and cut our seed potatoes; and if they are not put in for a week it is no matter, or if put in the next day, we consider it all the same.

Mr. HUNTINGTON. Do you think there is any difference between the sprouting end of the potato and the other end in maturing?

Mr. WARE. I don't know as to that particularly. I think that potatoes that come from the sprouting end are smaller than those that come from the eyes at the other end; but whether the one ripens or matures earlier than the other I cannot say. I have never been particular to avoid the sprouting end or the other end; I plant them both together. Now and then a hill of potatoes, or a plant in a hill, is more forward than the others. I attribute that to a difference in the seed potato. Sometimes they are a little mixed. The very best of the early potatoes I think is the Shebago seedling; and among that seed there is a portion that will ripen earlier, but yields a small crop, and we avoid that in selecting our seed. We go along on the side of the rows and pull out or dig out any plant of that kind and get it out of the way, so as not to have it in the seed the coming year, because it yields a small crop and is therefore objectionable.

Mr. HUNTINGTON. It shows a different top?

Mr. WARE. It shows a smaller top.

Professor AGASSIZ. What is the value of the potato crop, altogether, upon the farm? I ask this question with reference to the historical fact, that hundreds of years ago potatoes were grown nowhere; the whole European civilization had grown up before potatoes were in use in any way. I should like to know

what modern times have gained by the introduction of the potato, and by the extent to which it is cultivated. And I ask the question for another reason—because the potato, as an article of food, is so little used in Southern Europe, compared with the use to which it is put among the Anglo-Saxon race. My question looks, therefore, to ascertaining what is the absolute value of the potato crop in all its different aspects; because the answer to that may induce one-half of Europe to cultivate it more than they do. You never see a potato upon a French table.

Mr. WARE. We consider the value of the potato just what money it will bring. We raise it to sell, and we are careful to have it in the market when it will bring the most money. If it were not for selling potatoes, I should not think of raising a potato crop to feed it to stock. I should be careful to raise enough for my own use; but for stock I should raise other root crops.

Mr. DODGE. To what extent do you and the Marblehead farmers use kelp in the cultivation of roots?

Mr. WARE. We collect large quantities of kelp—get all we can. We spare no pains to save all we can get, and commonly use it in composting. It is one of the most valuable manures to add to the compost heap that I know of. Take, for instance, meadow mud. The way I make my heaps, I put at the bottom a foot or fifteen inches of meadow mud; then about as much kelp; then a layer of mud, about the same, and then a layer of kelp, and so on, until I get my heap five or six feet high—as high as is convenient. The kelp will generate heat in the coldest weather in winter. In our kelp heaps, when we haul them up in the middle of winter, we find maggots and flies at all times. This kelp, put up in the compost heap, as I have said, will produce heat, and work upon that meadow mud through the winter; and in the spring, pitch it over twice, certainly, before using, and the mass is a valuable manure; equal in value, I think, cord per cord, to stable manure. That is the most profitable way of using kelp, in my opinion, though we oftentimes use it clear. I have seen as handsome potatoes as I ever saw in my life, growing from kelp taken directly from the beach, late in the season, and put right into the ground. It is long and coarse, and very difficult to cover at that time. I have planted potatoes upon it green, and have had a most excel-

lent crop ; and always, in such cases, the potatoes are of excellent quality. . We use this kelp for all our crops ; for our root crops and onion crops. By the way, it is very excellent manure for onions, and especially for cabbages. I think our Marblehead cabbage, which is somewhat well-known, depends more upon kelp than any other one thing. To be sure, we make somewhat of a specialty of it. We have been very careful in selecting seed, so that we have a very choice kind. We have cabbages that are almost sure to head—there are very few exceptions : and they will grow, sometimes, if we will let them, a head of sixty pounds upon one stalk. But we avoid raising such cabbages, if possible, because it is so difficult teaming them to Boston ! (Laughter.) We raise them occasionally, to exhibit at our Essex County shows, and the Fairs of the Massachusetts Horticultural Society, but we don't like to ; we had rather raise smaller ones, weighing perhaps fifteen pounds. And, by the way, the cabbage crop is a very valuable crop oftentimes. I know of a single instance in our town, which occurred last year, where upon one acre of reclaimed meadow land, which a few years ago was of no sort of practical use, \$725 worth of cabbages were raised, at a cost of \$125, leaving a net income of \$600 from one acre of land, in one year.

**A MEMBER.** Does this kelp ever come adulterated ?

**Mr. WARE.** Oh, yes ; but we don't mind the adulterations which the good Father in heaven places in our manure.

**Mr. HUNTINGTON.** What manure do you think is best for early potatoes ?

**Mr. WARE.** I should prefer some warm stable manure in connection with kelp ; but our manures are usually composted. We make our compost of meadow mud and sea-manure—kelp ; and when I say kelp, I mean all the various sea mosses. Just such mosses as you will see beautiful specimens of in the books that the ladies have upon their centre-tables we haul upon our farms by the cart-load ; we mix them with meadow mud, and they work together. We make our compost heaps of meadow mud and sea-manure, of stable manure and night-soil ; and when I say stable manure, I include cow manure and pig manure. We make somewhat of a specialty of the raising of squashes, and we use night-soil more especially for our squash

crop, and use it in connection with other manures for other crops, as it may happen.

Mr. HUBBARD. Is not this kelp one of the secrets of your success? Those of us who live at a distance from the shore cannot get that kelp.

Mr. WARE. Very sorry for it, sir. It is a great advantage, certainly. It is an advantage we appreciate fully; and if others cannot get it, we can't help that.

Mr. HARRINGTON, of Lexington. Have you ever used salt hay for potatoes?

Mr. WARE. I have never used salt hay, because we don't have it in our immediate vicinity, except what we buy for stock. We always buy a portion of salt hay for our stock, because it gives them a relish and makes them feed better.

Mr. HARRINGTON. With us it has been found profitable to team it ten or twelve miles for the potato crop.

Mr. WARE. I think that salt is a very valuable manure. I would rather have it than a good many of the popular phosphates and sulphates that sell for three or four cents a pound.

A MEMBER. I understood you to say you would not raise potatoes for stock. Do you mean any kind of stock?

Mr. WARE. I mean in preference to other roots. I would raise other roots because I can get so much larger crops and so much more income from an acre than from potatoes.

Mr. HUNTINGTON. Suppose you wanted to raise milk, would you prefer two quarts of potatoes to six quarts of carrots?

Mr. WARE. No, sir.

Mr. HUNTINGTON. Did you ever try the experiment?

Mr. WARE. I can't say exactly as to that point. It is simply my own personal opinion. I have no exact knowledge upon that point. I know that potatoes make very poor milk.

Mr. DODGE. Have you had any experience in planting cabbages to kill twitch-grass?

Mr. WARE. Yes, sir. We in Marblehead don't care anything about twitch-grass. Twitch-grass will grow anywhere; but it is most abundant where salt manure or salt has been used. It seems to be in some way or other connected with it. It is not uncommon for our old grass fields to have the twitch-grass work in so as to make a complete sod. But we don't care one pin about it. It is one of the easiest things to manage that

I know of. The sod will become so filled with the roots of it that I think it becomes a valuable manure. My plan for destroying it would be to break up the land after haying, in August—that would be in warm weather, usually—and the next spring I should put upon it either a crop of squashes or cabbages. Both crops are planted late, so that there would be ample time to plough up the sod, which would have got well rotted. I would plough it and cross-plough it when I break it up, which would leave the land in a very rough condition; but, as I have said, there will be time enough to plough it twice before you put in your crop of either cabbages or squashes, and by that time most of the twitch-grass is dead. If there is any left, we calculate to have our land in such a condition that the crop of squashes or cabbages will cover the whole ground, and the twitch grass cannot grow, for it will be shaded completely and choked to death. It is a very easy matter, therefore, to manage twitch-grass.

Mr. PERKINS. I would inquire in regard to the size of the potatoes you plant?

Mr. WARE. I prefer a medium size. I tried, a few years, planting small potatoes; but I think the tendency is to cause the seed to degenerate somewhat. We very frequently buy our seed potatoes, because potatoes grown continuously in one location quite a number of years do not usually yield so well. Therefore we buy the seed from the East, and buying the seed, we take it as it comes, being careful to buy pure seed, and plant the potatoes, whether large or medium or small. There are usually not many small ones come. We cut them according to their size, leaving about two eyes on a piece.

Mr. PERKINS. I would like to call your attention to Mr. Stockbridge's question—whether you see any difference in the crops that follow the various roots?

Mr. WARE. I think carrots leave the ground in a better condition for other crops than any other crop. A crop of turnips or mangold wurzels does not leave the ground in so favorable condition for other crops, and so with cabbages. Carrots, by way of a cross, will follow a cabbage crop admirably; but I should think it quite objectionable to follow mangold wurzels, cabbages or turnips with carrots. I should never think of planting cabbages or turnips or mangold wurzels two years in



succession on the same ground ; but I would not hesitate to plant carrots twice on the same ground in successive years, if it seemed more convenient. The harvesting of carrots with the subsoil plough leaves the land in a very light, fine condition, and is the very best possible preparation that can be made for an onion crop the next year. In fact, I think it is almost useless to attempt to get an onion crop until I have first raised a carrot crop on the same land. That is our usual custom.

Mr. CLARK, of Waltham. Don't you raise onions upon the same land several years in succession ?

Mr. WARE. Yes, sir ; any length of time. Onions grown upon the same land continuously acquire a more delicate flavor and finer grain, and will ripen earlier and handsomer. Perhaps the crop may not be so bulky, although there won't be much difference, but the quality will be very much better. We expect the first crop of onions to be of coarse fibre, unless they follow carrots.

Mr. STOCKBRIDGE. I wish to ask a question in relation to fertilizers. Your experience in the application of phosphates has been anything but satisfactory. The question I would like to ask is this : whether any applications of these fertilizers, phosphates, especially, have been made to land, to save manure, where you have put six or eight cords to the acre, and the land in a poor condition ?

Mr. WARE. I never have risked a crop with phosphates alone. I have had high hopes of aid from them. My idea was that they would be a valuable assistance in starting the crop, but I have depended upon the quantity of manure for the final growth. You asked me, I believe, if I had ever been satisfied with the result of using any fertilizer. I was, once. There was a firm in New York, who manufactured "Mapes's Phosphate of Lime"—I don't know but Professor Mapes manufactured it himself at that time. I had about two quarts sent me in a paper bag, as a present, to try. I tried it, and found the result admirable. I bought about a hundred weight or so, and didn't find the results so favorable. The most satisfactory result I ever got from them was from that little paper bag.

Mr. JOHNSON, of Framingham. I would like to inquire how many bushels of carrots you obtain from an acre, as an average crop ?

Mr. WARE. From ten to fifteen hundred bushels, I should say, is a fair, good crop of carrots.

Mr. PERKINS. Can you tell us what it costs for labor to raise a bushel of carrots, beets, turnips and potatoes?

Mr. WARE. I cannot answer that question, from the fact of our business, being so mixed. We have various crops of roots, and perhaps the hands would be occupied half a day in weeding one kind, and part of the day in weeding another, and so on. And perhaps if the men had an hour or two to spare, when they were about something else, they would be set to truckle-hoeing. The business of market gardening is so mixed up, generally, that unless a person made a specialty of it, it would be very difficult for him to tell the exact cost of the production of any one crop.

Mr. SLADE. Can you tell us the price of labor, and the number of hours the laborers work a day?

Mr. WARE. This last year, we paid \$20 a month for eight months, and boarded the men. The men rise in the morning about five o'clock, do up what we call the chores about the barn, take care of the cattle, eat their breakfast, and go to their work; at nine o'clock, come in to luncheon; at twelve, to dinner, and then they have some other chores, and leave off work at night so as to get through with their chores and everything about sundown; before sundown, in the longest days. In the winter, of course, the hours of labor are very much less. In a vegetable garden, perhaps the largest amount of labor is the weeding. We usually hire men enough to do all the spring work, put in the crops, and do the hoeing, and hire boys by the day, to do the weeding. A boy twelve years old, who is used to it, can weed full as much in a day as a man, and perhaps to better advantage; and we employ a good deal of such labor, and pay them pretty good prices, too. We pay boys seventy-five cents a day, and they don't go to work so early nor work quite so late as the men do. We used to pay boys twenty-five cents a day, where we now pay seventy-five.

Mr. CLEMENT. Are you ever troubled with the cut-worm among your vegetables?

Mr. WARE. The cut-worm is troublesome, but very seldom sufficiently so to destroy a crop, and if we meet with any accident of that kind, we fill up the vacant space, by setting out

cabbage plants. We can set them out late in the season, and fill up any vacancies. It is very seldom we have a crop destroyed by the cut-worm. They do come up and eat the cabbages at the butts, but then we have always surplus plants, and if we lose one, we put in another, and so secure a crop.

Mr. CLEMENT. Did you ever imagine that the use of salt manure was beneficial in destroying them, or preventing their ravages?

Mr. WARE. No, sir; I don't think there is salt enough in salt manure to have that effect. I shouldn't think it had any effect in that way, because I have known pieces entirely cut off by them, but not often.

Mr. CLEMENT. Then I would ask if you think autumn ploughing is beneficial in the destruction of the larvæ?

Mr. WARE. I think it is. I think it disturbs their arrangements for the winter in such a way that they are not prepared for the cold weather. I think that is one of the great advantages of fall ploughing—that it destroys insects. I would avoid fall ploughing on hillsides, where the rains are liable to wash the soil away. It is not uncommon in the winter time, after the ground is frozen on the surface of a hill, for the wind to blow off any top dust that there may be; and to avoid this blowing away of the surface soil as much as possible, we drag it down smooth. Instead of a roller, we use a drag in our vicinity very much.

Mr. PERKINS. What do you call a drag?

Mr. WARE. The general idea of a drag is something to haul rocks upon. We make one on purpose for this business. We take three plank, about eight feet long, and have the inner side of it bevelling a little; nail on some cross-pieces, with one side a little bevelling,—something like a sleigh runner, only not so much,—and then we have a chain attached to each end, hitch a team to the chain, and a man rides on the drag to drive, and has a very nice time. That is the way we smooth off our land after laying down to grass. It leaves the land very smooth, and in fine order. If there is a stone, it will crowd it down; if there is a lump of dirt, it will grind it up, instead of pressing it down, as a roller will. We think, therefore, the drag is much better. The flat part I should have about two feet wide, and the bevelled part need not be more than ten inches—just a slight

bevel, so as to rise from the ground ; making the whole width about three feet.

Mr. PERKINS. And your drag is so hauled that it makes a track of eight feet ?

Mr. WARE. Yes, sir.

Mr. DODGE. Is this a new idea in Marblehead, or have you never had rollers there ?

Mr. WARE. We have had rollers, but this is, perhaps, a local arrangement. It is customary with all the farmers in our neighborhood to use a drag, not a roller. It is very much less expensive, takes up less room, and does the work a great deal better. We don't care to have it at much of an angle ; we simply want it to slide over the surface of the ground ; and if it was exactly square, the front edges would be digging into the ground. The driver, by placing himself in the middle or back of the drag, can regulate that himself.

Mr. FLINT. Have you made any experiments with regard to the following of the ruta-baga with other crops ?

I have in my mind a very successful farmer, and a very observing man, in Westborough, who planted a piece of half an acre with ruta-bagas, and the following year he had occasion to plant that piece with corn, and also some adjoining land ; and the crop on the part where the ruta-bagas were planted was so inferior to that where they were not planted, but where some other crop had been raised, that the difference was perceptible through the whole season. The line was as distinct as it could be, and so marked that no one could help noticing it. It was evident to everybody that the want of success with the corn was owing to the turnips on the land the year before. This shows that there was some deleterious effect upon the land, caused by the culture of the ruta-bagas ; and I find that that opinion is very prevalent among our most observing farmers. I have heard it expressed in a vast number of instances.

Now, my question is, whether Mr. Ware has ever made any experiments, so as to be able to say distinctly whether that is a fact or not ?

Mr. WARE. I have seen results. I have not in my mind experiments that I can state exactly, but I have seen results, and they were of such a character that I avoid raising ruta-bagas. I think their effect upon the land is very injurious, and

if I were going to put in a crop of roots after a crop of ruta-bagas, and thought that six cords of manure would be sufficient if following a crop of carrots, I should be very certain to put in eight. I think that, for succeeding crops, ruta-bagas are very much more injurious than other root crops.

Mr. FLINT. Suppose you wanted to lay a piece down to grass, what would be the effect?

Mr. WARE. I have no experience in that way; but I know that if a piece of land is laid down after cabbages, which are of the same character as the turnip, it succeeds admirably.

Mr. HUBBARD. I had a little experience in that line, in raising late cabbages and turnips on a field which contained 182 rods. It was highly manured for a good cabbage and turnip crop, and the next year I put on wheat; and on those 182 rods of ground I had twenty-four and one-half bushels of very handsome spring wheat; and I never perceived any difference between the turnip and cabbage part of the field. At any rate, the crop of wheat was rather extra upon that amount of ground.

Mr. WARE. Did any part of your field of wheat extend beyond these 182 rods?

Mr. HUBBARD. Yes, sir.

Mr. WARE. Allow me to ask if that piece where the cabbages and turnips were grown had been more heavily manured than the other part of the field where the wheat was?

Mr. HUBBARD. I was only speaking of this part that contained the cabbages and turnips, where the land was measured. The wheat was the largest and best where the cabbages and turnips were, and I attributed it to the manure.

Mr. SMITH, of Sunderland. I should like to ask about the proper time of sowing mangolds and beets?

Mr. WARE. Mangolds I should sow as late as carrots, and also beets, if raised for stock; but I do not raise beets for stock. What beets I raise are for the early market, usually, and sometimes show beets. Beets for winter family use should be sown as late as from the twenty-fifth of May to the first of June, in order to be tender, sweet roots. We don't use beets for stock; we use mangolds and carrots in preference.

Mr. CLEMENT. I wish to ask now, whether you have any particular method of keeping seeds, or ever have occasion to keep them more than a year—carrot seeds, for instance?



Mr. WARE. In cleaning seed, we sink it, in order to have it very pure. Seed that has been sunk, I should be afraid to plant the second year, although, if proper care is taken in drying, it might be saved; but ordinarily, I should avoid sinking the seed for more than the present year's planting. Without sinking, I think the carrot seed is very good the second year; a little risky the third. Onion seed, I should say about the same. If not sunk, very good the second year; the third, I should be suspicious of it. Turnip seed, not good after the second year. Mangold wurzel will last quite a number of years. Cabbage, four, five, perhaps six years, provided it is well cared for.

Mr. HUBBARD. How is the cleaning of the seed done?

Mr. WARE. I think I know how to clean carrot seed, and perhaps it may be interesting to you all to know. I labored very hard in cleaning it before I knew how. I think the proper way is, after it is harvested and put away to dry, to select some very clear day in winter, when the thermometer is down to zero or below, and spread it on the floor, on a piece of coarse canvas, and thrash it with the flail until you get tired; then turn it over and thrash it again, and it will become very fine. Carrot seed has a little fibre on it, which we want to get rid of, because we cannot sow it so readily if those fibres are on it. In pounding the seed in this way, in cold weather, all these little fibres will come off, or, if there are some that have not come off, a very good finish to it is to take a board and press it, pushing a little at the same time. It will sort of grind upon itself, and grind off all these little fibres that still remain on the seed. Then you have small portions of the stalk that the seed grew on, the dust of these little hairy fibres that grew on the seed, good sound solid seed, and light seed, that is not good. I think the life of a little plant depends in a great measure upon the amount of nutrition there is in the seed itself; therefore, a large, plump seed, will make a very much stronger plant than a weak seed, that will only just germinate. We don't want to plant any of this seed that will barely germinate and make a plant; we don't call that good seed. We want to separate the large, plump, heavy seed from this light seed, so we put it all into a tub, fill the tub with water, and stir it up some little time, but not too long, for if you do, you will get some seed that you ought not to have. The solid seed will readily sink,

the light seed will float; skim it off and throw it away. You will feel that you are wasting a large portion of your seed, but it is very poor economy to sow such seed. Then pour off the water, and with it will be poured off all the fine dust that has collected by cleaning the seed; and by filling up and pouring off two or three times you will have your seed just as fair and clean as possible. Your seed will be free from the fibre that grew upon it, and it will not be much more than half the circumference that it was before; but you have got a clean article, and you can regulate your machine to sow such seed just exactly as you want to, and get just as much seed in a given space as you desire.

Mr. SLADE. How many do you calculate to drop in a hill?

Mr. WARE. We don't drop any in hills, we sow in drills. The wheel of my machine is two and a half or three feet in diameter, and in one revolution of that wheel, for carrots, I would drop from 96 to 120 seeds. You can tell just exactly how many seeds you are putting in a certain space. I would like to have a plant as often as once in an inch, but you cannot have the machine distribute the seed just exactly so. Sometimes there will be two or three seeds within a half inch, then there may be two inches without any, but if it average about a seed to an inch, that is what you want. You can easily tell how many your machine is casting by turning it one revolution, and catching the seed in a pan and counting them; then, knowing how many inches there are in the circumference of your wheel, you know just how many seeds you are planting to the foot. In that way, you can so regulate your machine as to plant just the quantity you want, and save the expense of thinning, which, as I said before, is a very laborious and tedious process. It is just so with onions.

Mr. HUBBARD. I hope the gentleman will not get weary. We like to pump from a well that we cannot pump dry. I would like to inquire whether, in saving your seed, you have any reference to the centre stalk?

Mr. WARE. No, sir. The centre stalk has altogether the best seed, but there will be some side branches, and those side branches will have centre stalks, too. We save the main centre stalk and the centre stalk of the side branches; but the smaller

heads we never gather at all, because they are just so much chaff to be got rid of.

Mr. HUBBARD. In saving cabbage seed, would you have any reference to saving the seed from the centre stalk rather than from the branches?

Mr. WARE. I think that whether a cabbage sends up one stalk or more is rather accidental than otherwise. The cabbage, in sending out a seed stalk, has to burst through the head. Sometimes, when that sprout is coming out, it meets with obstructions and will divide. It is sometimes very difficult to get out, and therefore I generally cut a little slit across the head of the cabbage to facilitate the getting out of a sprout. The natural tendency is to throw up one sprout; but if that one sprout meets with serious obstacles in coming out, it may come out in two or three. I think the stronger the stalk or shoot that comes up, the better would be the seed; and I know that the vigor and life of the cabbage depend very much indeed upon the vigor of the seed. A large, thrifty, well-rounded cabbage seed will produce a plant as different from a little shrivelled up cabbage seed as you can imagine. There is as much difference in the appearance of the plants when they come up as there is between the two seeds themselves, and that is immense.

Mr. HUNTINGTON. How do you dry them after washing?

Mr. WARE. I should sink them on a dry day, then spread the seed out thin on a cloth and lay it on a platform or board, and by turning it two or three times you will get it dry enough in a day so that it may be taken in. But don't put it away in that condition; it wants to be open to the air for several days. It takes a good while to get thoroughly dried. But don't dry it near a stove. If, however, you want to use it immediately, the seed cleaned to-day would be ready to sow to-morrow.

Mr. PERKINS. What distance apart are the rows of your carrots?

Mr. WARE. Fifteen inches.

Mr. PERKINS. What distance apart are the carrots?

Mr. WARE. If I could have them just exactly as I wanted them, I would have them one inch apart; but in getting them to average that you may have two or three in one inch and none in another. If sowed properly, I should not thin them at all; for there is this feature about carrots, if they are too close they

will crowd each other, and work themselves into position, and come out all right. It won't do, if you have two or three in one place, to thin them out to one plant—you will get them too thin on the average. You want to get the average right.

Mr. SMITH. Do you thin onions at all?

Mr. WARE. We sow them so that they will average about right—about an inch. Onions have a faculty of riding each other. I have seen a row of onions that made quite a pile; of course the centre onions would not be within four inches of the ground.

Mr. PERKINS. What distance apart do you put your rows of mangolds?

Mr. WARE. Twenty-two inches apart, and cultivate between them with those truckle-hoes. I suppose it might be advisable to have them far enough apart to go between with a horse-hoe—three feet or a little more. In that case the roots would grow somewhat larger. I am not certain but the crop would be as good, but my practice has been to sow them twenty-two inches apart, and work between them with the truckle-hoe, and thin the plants at the second weeding. If you thin too soon, these cut-worms are very apt to come up and take the ones you have left; but wait until they have got so strong that the cut-worm will not trouble them, and then leave them about eight inches apart.

Mr. PERKINS. What variety of mangold do you cultivate?

Mr. WARE. The orange globe mangold, and the red also. I thought at one time that I should give the preference to the orange globe, and I think it will make a better root and keep better, but I am inclined to doubt whether the red will not make a larger growth. The orange is a little more solid root, makes a good growth, and keeps rather better. Therefore I am inclined to favor that.

Mr. THOMPSON, of Nantucket. I desire to say a word or two in regard to these fertilizers. I began to raise roots this season, and I wished to test the value of different manures and these specific fertilizers. I took a piece of land that had not been manured for some five or six years,—rather sandy land, with clay underlying. I divided that into sections of eight paces across the piece, and ploughed it, without any manure. Then I took sheep manure and spread it on half of one of these

sections at the rate of twenty loads to the acre, of twenty bushels each. These sections were about five rods across. Then, after ploughing, and when I got ready to plant, I applied the sheep manure to the other half of that section, so that I should be able to test the value of it ploughed under, and also applied to the land after it was ploughed and previous to planting, cultivating under with a horse-hoe. The next section was guano—this “ammoniated Pacific guano” at the rate of 200 pounds to the acre, composted with red loam. To the next section I applied flour of bone, at the rate of about 300 pounds to the acre. That I applied without composting it; had it sowed close down, and its quantity weighed out in proportion to the amount of land it was to cover. So I went on through the piece, alternately applying the guano and the flour of bone, until about the fourth or fifth section, which I left without applying anything to it at all. Then, on the 4th day of July, that was planted with what we call Italian turnips, a species of French turnip, the seeds of which were imported a number of years ago, and have been constantly cultivated with us since, as preferable to any French turnip for table use. The whole piece was more or less injured by a worm, which is as large as the army worm, (and really they were almost as troublesome this year,) with yellowish stripes longitudinally, and probably three-sixteenths of an inch in diameter, and the drought was somewhat severe upon the crop when it was growing. The result was a marked difference in favor of the ammoniated guano. The sheep manure that was applied and turned under at the first ploughing was about equal to the guano; that which was cultivated in was of no advantage at all perceptibly, but I think that unfavorable result was caused by the drought; if it had been a rainy season, it might have resulted in greater advantage. I could see no advantage from the flour of bone over the section that had no manure of any kind upon it. That was my experiment with the turnips.

The land adjoining that piece was ploughed and manure turned in at the rate of twenty loads to the acre, of twenty bushels each, and planted with corn, without manure in the hill, except two rows. In those two rows, there was a tablespoonful of the ammoniated guano dropped into each hill, after the seed was planted; not allowing it to lie upon the seed, but



upon the side of the hill, where it would be covered by the hoe, and be mixed with the earth. The effect of that was so marked that you could see it before you got to the land, and the crop was better. All our corn was somewhat cut off by the drought this year, but those two rows were preferable to any of the others. I applied the flour of bone to two rows at the first hoeing, and the guano also to two rows. The effect of the application of the guano at the hoeing was not so great as at the planting; the flour of bone made no perceptible difference at all, at any time. I never have seen any particular advantage from it. Whether or not it will come in the next crop, I cannot say.

I wish to state in regard to a crop of mangolds that I raised, and my opinion of their value, from a test that I made last year. I will say, that all these tests and experiments that we make are not so accurate as they would be if we went to work and weighed exactly, pound for pound, what we fed out to stock, and the result in the product of milk; but last winter I fed carrots to three cows for two weeks, at the rate of a peck apiece a day, with fine feed, a quart to the peck, and then I kept the run of the quantity of milk. Then I tried the long red mangolds for two weeks, with the same amount of fine feed, and kept the run of the milk. As near as I could judge, in this rough way of testing, the result was about twenty per cent. in favor of the carrots. The amount of hay was not weighed to the cattle at the time, but I thought, from as close observation as I could make by looking over the stack every day, it seemed to me to be decidedly in favor of the carrots.

In raising carrots this year upon the same quality of land, that had been manured for two years, I ploughed in coarse manure right from the barn-yard, about six inches deep, upon land that was fully permeated with twitch-grass, or dog-grass, as we call it; I think Mr. Flint's book gives it as *Triticum repens*. I had that ploughed in, and then, before planting, I had twenty loads more to the acre applied, that had lain a year, to be cultivated in before planting the roots; for my experience is, that unless the manure that you apply to plant roots upon is well decomposed, they will straggle, instead of going down straight and smooth, will run to tops, and the roots will not be so long as they would be if planted upon well rotted manure. I found

the carrots gave about seven bushels to the rod. I took from a quarter of an acre 275 bushels of long reds, and I think if I had planted the rows three feet apart instead of two, I should have taken a greater bulk. The outside row was evidently over a hundred per cent. more bulky than the next row inward.

Then I wished to test the value of thinning the carrots. Some of my neighbors said, "Don't thin carrots," and some said, "Thin carrots." I was positive which was the best way in regard to beets, and now I wished to test which judgment was best in regard to carrots. I had a truckle-hoe, but there is a ledge or rail that runs each way from the blade of the truckle-hoe, which, if it is run through the rows after the little sprouts are up on top of the ground, will cover them up; therefore I think it best to run through first with the common hoe, until the plants have got so large that they will protect themselves, and will not be covered up with the sand or earth from the truckle-hoe. Then I have a hoe four inches wide, and hoe across the piece, which will leave four plants in a column and four inches between the columns. That is the way I thinned them out. But four rows were left not thinned at all. The men dug these and measured them into the wagon. There were ten baskets full of small roots. The next four rows, there were twelve baskets full of good, stout, healthy roots; which satisfied me that I ought to thin rather than leave them not thinned.

My appreciation of the value of roots in feeding is to this degree. I always give my horse more or less roots, and I think if I had two tons and a half of hay for a full-sized cow, I would sell twenty per cent. of the hay and purchase with the money all the roots I could, and feed them in addition to the other eighty per cent. of hay, and my cow would give me more milk, and come out in better condition in the spring.

Mr. SLADE. In the early part of this discussion Mr. Huntington remarked that he had become almost discouraged in regard to raising French turnips. Mr. Ware has thrown some light upon the subject, and I just wish to add that it accords with my experience. I have for several years found that when I planted my turnips and mangolds early—which, by the way, we all want to do—we want to get them in and out of the way before we go to haying, and hoe them once, perhaps, if we can;

consequently we have been in the habit of putting them in about the 20th of June—from the 18th to the 24th. I say I have found that when I have planted my mangolds thus early, there have been more or less rotten turnips at harvest time. But we have no rotten turnips when we plant late. This year my turnips were grown on three separate pieces. The first piece was planted the 20th of June, and out of about 500 bushels, about 80 bushels were rotten. Another piece of turnips was planted the 7th day of July, where we had picked our strawberries—or rather where the strawberries should have been—the crop wasn't much. We turned the piece in the 7th day of July, used some crushed bone for dressing, and raised a handsome crop of French turnips—not a rotten one in the whole. On another piece, planted, I think, the 9th day of July, which was an old strawberry bed, turned in, and some strippings of the barn-yard put on it, the crop was good, the quality excellent, and there was not a sign of any rot. These facts accord with the experience of my neighbors in this matter; and, in fact, it is very well understood with us, that if we wish to get a good crop of turnips we must not plant them until late. The fact is, people generally who raise root crops are too anxious to plant them early and to harvest them early. There comes a cold night in the fall, and they begin to think, "Here are my crops out, and I must get them in." It is not time to get them in. They will stand it a long while after we think it is time to take them in. There is a gentleman in my neighborhood who had a fine piece of turnips, which he did not commence harvesting until the day after Thanksgiving; I finished the 10th of November. He says we are in too much of a hurry to get our roots into the cellar.

In regard to the crops to follow French turnips and ruta-bagas, my experience agrees with Mr. Flint's statement. I cannot raise corn or strawberries after them, and I never succeeded to my satisfaction in raising grass after them. The best thing I ever raised after a crop of French turnips or ruta-bagas was a similar crop. Put on manure and plant them again, as you would onions. I have a piece of about five-eighths of an acre, which was manured from the barn-yard last year, perhaps twenty horse-loads to the acre, and we raised 400 bushels on it. This year I put on about twelve horse-loads of rather weak compost

and eighty bushels of ashes ; the rows were planted twenty-eight inches apart, and the crop was about 500 bushels. It wasn't very accurately measured, but we had no doubt that it was about that. I don't think the crop cost to exceed ten cents a bushel, provided the land is in as good condition as it was before the crop was raised on it.

Professor AGASSIZ. May I be permitted to return once more to my question, for I was, perhaps, not understood ? I wanted to obtain some information with reference to the nutritive properties of turnips, beets, carrots and like roots, as compared with potatoes. In the one case we eat or feed essentially starch ; in the other we eat or feed essentially sugar. Now the question is, what is the respective value of these crops—the potato on one side, a farinaceous tubercle, and the sugar roots on the other—with reference to agricultural economy ?

Mr. HARRINGTON. I am very glad Professor Agassiz has asked the question. It has been revolved in my mind very seriously whether the farmers of Massachusetts are proceeding in the best course to arrive at the best result in regard to profit. That is what we should all aim at—profit and the improvement of the farm. I would ask the question, whether it is not a fact that, taking the whole of Massachusetts, good hay is the best crop for your stock, for market and for beef ?

Mr. PUTNAM, of Danvers. This question is important to us all as farmers. I may differ somewhat from the remarks that have been made here this forenoon. The question before the Board is, I suppose, what is the best crop to raise to support our domestic animals ? We have had the experience of Mr. Ware in a particular locality—in Marblehead—with roots. I should take the ground that we have another crop which is more advantageous for feeding to domestic animals than roots, and that is Indian corn. My experience is, that I can raise one hundred bushels of Indian corn where I can raise one thousand bushels of roots. Some few years ago the Board published a statement saying that Indian meal was the most nutritive and best addition that could be made to English hay for the production of milk. Now the Board seems rather tending to the encouragement of the growing of roots than directing the attention of farmers to Indian corn, which they have shown by experiments made at Westborough, if I recollect right, is the most profitable

crop for producing milk. Now I wish to turn the attention of the Board more particularly to this question.

Mr. Ware is peculiarly situated for raising roots, because he gets a very large amount of his manure from the sea, which those of us who are inland cannot get. I have formerly raised roots, and put a thousand bushels or more of them into my cellar; and when I have had to bring them up myself in winter, and feed them out, I have asked myself the question whether I could not get along more easily by raising corn and feeding it to my cows. It is a very easy thing to get a thousand bushels into your cellar; but it is some work, in a cold morning, to bring them up, chop them, and feed them to the cows. Then another thing. In turning our attention to roots, we have to guard against excessive cold. A carrot, after it has been chilled or frozen, is not healthy food for cows or any other animals. I know cows in Danvers that have been made sick by eating carrots that have been frozen. There is no such trouble with Indian corn. That is the crop adapted to us. God has given us this plant for our use. Agricultural writers have told us much about English farmers. Their climate is milder than ours, and roots may be adapted to their winters; but here, in our severe, cold climate, we have got to provide some animal heat for our cows, and we have in our Indian corn just what our animals need for this excessive cold weather. That is following nature. And if we can grow corn, there is no difficulty about keeping it. If we do not want it the first year we are sure to want it the next; but most of us use it all up the first year. Then, in connection with the corn itself, the amount of fodder that is grown upon an acre is to be considered. I think that, if you allow sixty bushels of corn to the acre, and six hundred bushels of roots, which would be a good crop, take the State through, the growing of Indian corn should be encouraged rather than the growing of roots. I do not confine myself to some particular localities, where they have an excess of manure, aside from the farm, but include the whole State, where, as a general thing, the farmers are dependent upon their own resources for manure to keep the land in good order.

Mr. SLADE. The most expeditious way of raising corn, after all, is to raise roots. A thousand bushels of roots, which can be raised as easily as a hundred bushels of corn, will buy three



or four hundred bushels of corn. That is the reason I do not raise any grain. I cannot afford it. I raised none this year of any kind; but a little less than a third of an acre of mangolds, sold for enough to buy a hundred bushels of corn; and I had enough French turnips from the five-eighths of an acre that I spoke of to buy two hundred and fifty bushels of corn. Those French turnips cost ten cents a bushel; and, as I said before, that is the most economical way of raising corn that I know of. That is what we do in Bristol. We sell all our carrots, and buy corn.

Dr. LORING. I desire to say one word in reply to Professor Agassiz. His question relates to the position which the potato holds in agricultural economy. It has passed out of the economy of large farming in New England. That is, wherever farming is carried on with any degree of profit, the potato is not considered a root that can enter into that business. Something—the effect of the climate or soil, or the limited time the root has to run,—has already stricken it out of those products which belong to the great economy of the farm. The same cultivation that will produce a thousand bushels of good sound purple-top Swedish turnip, the great turnip of England, the ruta-baga, Skirving's King of the Swedes, would not probably produce two hundred bushels of potatoes. In past times, when the potato did enter into the economy of the farm, and was thought to be a crop that the farmer could raise, it was a crop of five or six hundred bushels of the coarse long-red potato, not remarkably nutritious for either men or animals; so that the potato crop really should be classed with the primitive and ruder modes of farming.

With regard to the comparative value of the potato and other roots, the potato does not come into the scale in that respect either. There is not so much nourishment in a bushel of long-red potatoes as there is in a bushel of the turnips that I have just spoken of, for feeding to stock. There is no question about that; analysis shows it; experience shows it. Whether it is the starch in the potato, or the sugar in the mangold, or what it is, it is impossible to tell; but there is no doubt about this fact.

Now, I wish to say a few words on what I conceive to be the general subject. The raising of root crops has been a study of

mine for years. I satisfied my mind, in the first place, that the business of farming, properly conducted, involved the raising of roots, and I have listened with extreme interest to Mr. Ware's details with regard to the management of roots on his own piece of land, where he works with good results. I want to distinguish between roots, in the first place. Mr. Ware has made certain general declarations, which I do not exactly agree with—not that I call in question the value of his experience. Now, in regard to mangolds. They will grow on heavy, strong, clayey lands; that is the place for them. It is not necessary to enlarge upon that. They will not grow upon light land profitably. Swedish turnips will not grow upon heavy, rich clay lands; you cannot raise a smooth solid turnip there, and get a good crop. They want a light soil, filled with mineral material. Carrots want a warm, light soil, well cultivated. The drag, as Mr. Ware says, is the thing for root crops. Do not imagine that the drag is a substitute for the roller. You cultivate one thing with the drag, and another thing with the roller; and that Mr. Ware would have said, if he had thought of it. He would use his drag upon land where he had sown carrots; he would not use it upon land where he had sown grass or grain.

Mr. WARE. Our practise is to use the drag and not the roller in all cases for grain as well as roots.

Dr. LORING. The best grass and grain fields that I have ever seen have been sowed, the seed harrowed in, and rolled frequently.

These lands of which I have spoken are the lands that will carry certain specific roots, and carry them well. There is no trouble about it. The lands I have designated, applied to the roots I have designated, will always carry them well.

The land for carrots and for mangolds should be ploughed as early as possible. The mangolds I would sow as early as possible. In regard to carrots, I think Mr. Ware is perfectly right. The land for turnips must be ploughed late; for late turnips are turnips; it is useless to talk about early turnips.

Now with regard to manures. For mangolds the land should be drilled, and manure put in the drill. You can use green manure just as well as decomposed manure. Green manure from the barn-yard, properly mixed, with a little salt—because a little salt always comes in well on such land as can grow man-

golds—should be put in the drills. That is the best way a crop of mangolds can be raised. Salt for mangolds. I have used forty bushels of fine salt to the acre, composted with manure. That, put into the drills, will always give you a good mangold crop, unless the skies are adverse.

Thoroughly decomposed manure for carrots. They will grow just as Mr. Thompson said, if you put on green manure.

For turnips a small quantity of nitrogenous manure and of vegetable decomposed manures; not a large quantity, but phosphates. Turnips require phosphates; that is a rule you can apply. Why they require phosphates is more than I can tell; but they do. You can apply your phosphates in any way you see fit. Not an extra quantity of coarse manures, not an extra quantity of animal manures, but phosphates in some form or other. These are the manures for roots.

I have got the land ploughed and manured, and Mr. Ware has told you how to prepare your seed and sow them. Now you have got the crop off, we will suppose, and what is the condition of your land? It is just in the condition of all land from which you have taken a tremendous crop of anything—whether corn, tobacco or anything else. You cannot raise a great crop of anything, (and you do not want to raise a poor crop,) without exhausting the land to some extent. The raising of root crops demands superior cultivation. I use the common phrase, “exhausting the land.” What the roots do to the land I do not know, but they do put the land in such a condition that it requires extra cultivation to bring it back again; and extra cultivation, I believe, will be more than repaid.

Mr. STOCKBRIDGE. Supposing on one side of a field you sow turnips, and on the other plant potatoes, preparing the land properly for each crop, and then follow those crops with corn, which will injure the land most?

Dr. LORING. I should be slow to follow either with corn. I don't think I would plant corn after potatoes, or Swedish turnips, or any turnips. The flat turnip I don't think of calling a root, any more than I do of calling the clam a fish. We are not discussing the question of raising five hundred bushels of flat turnips to the acre; we are discussing the question of raising root crops. I cannot answer the question from experiment. If

I took my choice, I should follow the potatoes with corn rather than the turnips.

The comparative value of the crops you can raise upon an acre of ground, properly prepared for mangolds, is hardly the question. Nor is it the question, whether 1,500 bushels of mangolds would not be better than one hundred bushels of corn, because you would not be likely, on such land, to get anything like one hundred bushels of corn; it has not the depth to it. But 1,500 bushels of mangolds are worth more to any man for his cattle and sheep than any hundred bushels of corn that ever grew in Massachusetts; there is no doubt about that at all.

There is a difference in the value of these roots for stores. Turnips for growing cattle; they are as natural to them as oats to a growing horse, after he gets to be four or five years old. A bushel of turnips for fifty sheep—there is no better food in the world. I have tried it over and over again. I would rather have it than have a pint of corn for each sheep. You can easily figure which would cost the most.

I have no time to go into this matter at length, and it has already been discussed so intelligently, that it is not worth while, although men differ somewhat in their views. These are my general views, and the result of my experience.

Now in regard to fertilizers. Do not let us condemn the fertilizers themselves, because we condemn the manufacturers of them. It would not do for the Board of Agriculture of Massachusetts, or any other agricultural body, to undertake to declare against artificial fertilizers. That would not stand the test. While we condemn the manufacturers, I repeat, do not let us condemn the manures. The best of them will stand the test. Bones—how shall we get them into the best form? I doubt about grinding them as fine as meal. They want some solvent, and then they will be decomposed by the gases of the soil, and be made available. Mr. Coleman said of agricultural chemistry, that it had done one thing, and but one thing, and that was, it had dissolved bones in sulphuric acid. Bones are the fountain of a great deal of fertilizing material. Put them in properly, and they will be of great value. Crushed bones I like well; bones dissolved in sulphuric acid better.

One word about ploughing in manure in the fall. I would never attempt it. I have ploughed in manure in the fall, and

in a fortnight afterwards, it was frozen as solid as if inclosed in Norwegian ice. It did not decompose at all. What is the next process? It is thrown up and washed out in the spring of the year, before the atmospheric influences upon it are such as to decompose it, and before it is properly worked into the soil, it is about all washed away. I would plough my lands in the fall, if they were heavy, not if they were light; I would have my composted manure ready in the spring for my carrots, my green manure and salt for my mangolds, and for the growing of turnips, a little barn-yard manure and plenty of phosphates.

Adjourned to 2 o'clock.

#### AFTERNOON SESSION.

The members of the Board were called to order at 2 o'clock, and the subject of Fruit Culture was announced for discussion.

#### FRUIT CULTURE.

Mr. CLEMENT, of Dracut. *Mr. Chairman*,—I do not feel competent to do justice to this subject by any knowledge of my own, although I must confess that I am considerably interested in fruit culture. Perhaps I may as well begin by repeating a question that is often put to me: "Is there any encouragement to plant an orchard?" And I will proceed to state why I think there is encouragement to plant orchards. In the first place, I would like to say that I am not at all discouraged because we have one, two or even three successive failures. I remember some forty-five years back, and I recollect that when I was a little boy my father used to raise apples—not many of them grafted fruit, to be sure—but mainly the old-fashioned cider apples, as they were called. Some years he would make twenty or thirty barrels of cider; other years none at all. As far as I can recollect, we have always experienced these failures in the apple crop from time to time. They will happen to us occasionally; it is reasonable to expect them. That is one reason why I would not be discouraged—why I would not entertain the idea that apples are always going to fail because they have to a considerable extent failed for three years in succession.

Allow me to say, before I go any further, that I am free to admit that my own apple crop has never been so profitable to me as during the last three years, because I have had some apples



every year, and the few I have had have brought about as much money as the large crops I had when everybody had apples, and I was obliged to sell them at fifty cents a barrel, as in 1862, or give them away, which did not cost so much as it did to sell them.

Now, in raising apples, what should be the first inquiry? I take it for granted that it is going to be profitable, to some extent, at least, to raise apples for the market; and as to the kinds we are to propagate, that depends entirely upon surrounding circumstances. In one instance, it may be profitable for a man to raise a good many early apples, if he is in the vicinity of a good local market and desires to attend the market constantly. If he is at a distance from a local market, and not on a line of railroad, but on good land to raise winter apples, it may be more profitable for him, if he has other matters that he desires to attend to in the fall, when we usually sell our early apples, to plant the Baldwin, and such other varieties as he can take to market and sell in the mass, or later in the season.

Then some will inquire which are the best and most profitable varieties—which will bear the best—which are the most hardy. There is a vast difference in the productive qualities of apples, and in the hardiness of the tree also—in its power to resist deleterious influences. I will cite an instance here. A few years ago, I planted an orchard containing ten rows of trees, eleven trees in each, two rods apart. Among them, I planted a row of what we call the Foundling apple—known in the vicinity of Boston as the River apple; and the second row from it was the Gravenstein. The Gravenstein is a fine apple, and bears well in some localities, but I am sorry to be obliged to admit that it has been a failure with me. I can assure you, gentlemen, that I have harvested more barrels of these Foundling apples than I have half pecks of the Gravenstein; and yet the trees are of the same age, planted at the same time, and on the same soil. The soil is moist and rather too heavy; I should prefer a drier soil. I did put in under drains and drained it, but not to the extent I should like to have done. Upon inquiry, I find that other gentlemen succeed better with the Gravenstein.

Then there is another variety which I regard as excellent, coming a little later than the Porter—the Holden Pippin. I

have heard it called the New York Pippen. It is a large white apple, with a pretty long stem ordinarily, and with little minute dark spots in the skin. It is surely not the Fall Pippen of New York, with which the New York market is commonly filled in October. That is a short-stemmed apple, and a very good cooking apple ; but it is different from the Holden.

A MEMBER. Do you know the origin of the Holden ?

Mr. CLEMENT. A gentleman by the name of Conant, who claimed to know all about it, gave me the history of it. He said it originated in Holden, Massachusetts. I presume he thought he was telling the truth, and I do not know anything to the contrary. He appeared to be a fair-minded man, and I can see no motive that he could have had for misleading me in that respect. That is all I can tell you about it. He called it the Holden Pippen, and I followed him and mean to insert that name in my catalogue when I get out one. It is a good bearer, but some years there are a good many of them a little knurly, on my soil, and in many other localities. I know the apple in many places well, I know the character of the gentlemen who raise it, and it grows very large and very fine almost always, though there are a few exceptions.

Then, for an early apple, I would have the Early Williams, (Williams' Favorite,) although it is one of the poorest growing trees in the nursery I ever saw, I must confess ; ripening the latter part of August and in September. It is a large, oblong apple, narrowing a little towards the eye, preceding the Porter, and continuing up to the time when the Porter is ripe. They grow quite large, are very dark red, and are easily distinguished from any other variety. They are raised in considerable quantities in the northern part of Middlesex County, and conveyed to the Lowell and Boston markets. Mr. Reed, of Westford, sold a good many last year in Lowell, for five dollars a bushel ; though he did say they cost him ten cents a piece to raise them that year, because he had to spend all his time in his orchard, fighting the canker-worm. If he succeeded in diminishing the number of the canker-worms to such an extent that they will not trouble him so much hereafter, his future crops will not cost him so much.

Then there is another variety—a little earlier than the Williams, even. Some, perhaps, will not agree with me in regard

to the propriety or expediency of propagating this apple. I allude to the Red Astrachan; a large, dark-colored apple, round, but a little flattened,—very different in shape from the Williams,—a pretty sharp acid, but growing to a good size, with a white bloom upon it which makes it very beautiful. It is an apple that will command a good price in the market, and it is earlier than the Williams. I should recommend that as a good early productive apple, and hardy in tree.

Then, for an early sweet apple, I don't know any better than the Early Sweet Bough. The August Sweeting, I think it is called in some localities; the Large Yellow Bough of Downing. It has quite a number of synonyms, I believe. It is not a great bearer; you never have to shore up the branches, because of the weight of the crop; but it is an annual bearer. It is one of those kinds that bear sparsely, and bear every year, to some extent. I have always regarded it as profitable. It always commands a good price in the market, for a sweet apple.

Then there is another which is a trifle later. That is to say, it is a little later in beginning to ripen, but it is gone about the same time that the Early Sweet Bough is. This is the Connecticut Sweet; in some places the Golden Sweet, though there is another. It is not so yellow as one Golden Sweet I have seen, but it is the Golden Sweet of Connecticut. It is a light-colored apple, a beautiful growing tree—better than the other—a good bearer, and salable. These two, for early sweet apples, I regard as good as any within my knowledge now.

For the later varieties, I would mention the Porter. We cannot very well discard the Porter, although in some localities it does not do very well. It is prolific, and we should scarcely feel like doing without it, anyhow. It is an apple that is tender with me, and should be handled as carefully, or more so, than you would handle eggs, if you were to carry them to market. It would never do to carry them in a bag, as you would potatoes. If you do you will have a remarkable looking bag of apples when you arrive at market. That is a good apple. Then there is the Lyscom. I hardly know what to say of that. It is a good growing tree, a good bearer also, and the fruit grows to a fine size. It is known in some localities as Osgood's Favorite. It is a little too mild to suit almost everybody. People remark to me sometimes, when I am in the market, that they cannot

eat the Lyscom apple—there isn't body enough to it; they don't know they have apple in their mouths while they are eating it, because they cannot taste it. Last autumn they grew very large and sold finely. I do find a few families who like them, and some shops where they are willing to buy them, where they sell readily. The skin is rather thick and tough. That is one objection; but I do not regard it as much of an objection to an apple you are going to carry to market. It is not delicate enough for the table, but on account of its fine size and showy appearance it is a good fruit for the market. I find in my market—Lowell—that it is the showy things that sell. I recollect making that remark to a lady, (I believe she was a maiden lady,) and she said she had been made to feel very sensibly that it was the looks of a thing that sold it.

There is another still later apple that I regard as an excellent one to raise for market and table use; that is the Mother apple. It is a very late autumn apple, a good bearer, pretty hardy in tree, an upright grower, and makes a handsome tree in the nursery. It is in eating about the time of the Hubbardston—perhaps beginning a little before—but different in flavor and different in character. It is a little more juicy and more tender than the Hubbardston, and would suit some tastes much better.

I regard the Hubbardston as one of the most profitable varieties to cultivate. In our locality it did remarkably well this year. I never knew them fairer or handsomer, and the trees bore just as full as we desired to have them. The Hubbardston is a good market apple, but it is a little too mild, as almost everybody says. They do not like to buy it for cooking. It does very well to put upon the counter, and many families like the apple very much. There are some exceedingly partial to them. I had a plate of them on exhibition at Lowell, and a gentleman came along and wished to know if I had any for sale. I said I had a few, and he said he wanted a barrel of them for his daughter, for there was no apple in the world she liked so well. You will find a good many who prefer them to the Baldwin, especially before spring. I never eat a Baldwin until spring myself.

Now, as to the Baldwin, I would say that, although it is a very handsome growing tree in the nursery, the wood is not so hardy as that of many others. It is liable, in some instances, to

winter-kill. I have had them freeze to death in the nursery without being moved at all. They froze in the ground where they grew, so as to be as black as your boot, in the spring. I attributed this, in some instances, to getting the soil a little too rich, which kept them growing late in autumn. Being in pretty heavy soil, and wet also, the fall rains set them growing vigorously, and they froze up in that state, while the sap was still flowing. This brings me to a point where I would like to make a remark in relation to something that was said by Dr. Loring, the President of the New England Agricultural Society, at Concord, N. H. He took the ground that the raising of fruit had become an effort of science; that it could not be profitable any longer from the fact that the trees had become sickly through the country, and were failing all round; but he said that persons who were determined to have apples or any other fruit should put them out and drive them, and get all they could at once. That might be safe for some varieties, but I do not believe it will ever do here in New England—northern New England, at least. I think that to set out an orchard of Baldwin trees, and drive them very fast, would be to risk injuring them seriously; that they would be likely to be brought into the condition in which I have found mine—frozen to death. I remember that my father planted an orchard of Baldwins, and when they had got to be of considerable size, there came a pretty deep snow, before the ground froze up, and then there came a warm spell, and started the sap, and they all froze to death that winter. The trunks of those trees were three or four inches through, and every one died. I have known other similar instances. It is my opinion that the Baldwin and the Ladies' Sweeting should not be driven here; that they will not be able to endure our New England winters so well as when growing more moderately. When they make their wood early in the season, and ripen it so that the terminal bud is sealed up and all right before the cold weather comes on, then I do not apprehend the least danger of any apple-tree freezing to death.

I have alluded to the Ladies' Sweeting. I regard that as a most excellent sweet apple for winter use. It holds its freshness and good qualities late in the spring. It is a beautiful apple in appearance. It is astonishing how late they will grow, if you will only let them hang upon the tree. At the time we

usually have our Exhibitions, I am very much perplexed to find good specimens to carry to the shows. They look green, as though they ought to hang another month. They grow till about the last of October, and then they swell off large and fine, redden all round, and look beautifully. It is remarkably prolific. Not so hardy in tree as a great many other varieties; a little liable to have the canker; and I had one row of them in the nursery, on pretty heavy soil, and every one of them froze to death down to the snow-line; but they started again above where they were budded, so that I did not lose the trees outright; but still it was a loss, for they did not come up so handsomely as the first time. They should be grown upon high, dry soil, comparatively, and not forced, as it would not be safe to force them. They may be grafted on some tree more hardy in character, like the Blue Pearmain. Those who know it, express the opinion that that wood (the Blue Pearmain,) is almost as hard as thorn wood, and cuts like it. Poor as the apple is, the tree will bear almost anything, and makes a very good stock to graft upon, it is so hardy.

Then there is another point which may be interesting to some gentlemen. I have noticed in lifting trees in the nursery, that the roots of different varieties assume different forms. For instance: the Blue Pearmain strikes its roots downward, while the Hubbardston Nonesuch will strike its roots out near the surface. I know this is so, for I have noticed it many times. I find that some trees will have a vast amount of roots—more even than much larger trees in a row alongside. Why it is so, I am unable to say; I know the fact. The Hubbardston apple has a marked characteristic in this respect. The trees scarcely ever throw their roots so deeply as many other trees. They make excellent trees to plant. They do not grow little fine hairy fibres, without any large roots; they have plenty of them, almost always.

A MEMBER. Do you consider the Blue Pearmain a profitable apple to raise?

Mr. CLEMENT. No, sir, I do not. Occasionally it grows very large and fine in appearance, and will sell tolerably well on account of its beauty of appearance; but it is more insipid than the Lyscom, and a tougher skin, also. I have known it to bear very great crops, but it is ordinarily a shy bearer. I recollect a



neighbor of mine had twelve barrels from a tree. It was astonishing how it did bear. I think one man picked ten barrels in a day. A gentleman from Brighton was at an exhibition we had at Lowell, and bought some of them to put on an exhibition table in Boston. He said they were the finest he ever saw. I cannot say whether he took the premium or not, but I believe that was the purpose for which he bought them. It is a little against the rules, but I know people do such things sometimes.

Mr. STEDMAN. How does the Blue Pearmain strike its roots?

Mr. CLEMENT. They strike downward. The Northern Spy, I think, strikes its roots very similar to the Hubbardston. There are some modifications to this rule. You will find that all trees strike their roots deeper in a warm, open soil than in a heavy, wet soil. They do not like a cold, hard soil; and if the soil is very wet and heavy, almost all apple trees will strike their roots out near the surface.

I would like to make an inquiry of the gentlemen present in regard to the Haskell or Ipswich Sweet?

A MEMBER. The Haskell or Ipswich Sweet was originated, years ago, by Dr. Haskell. Mr. Cole described it in his book as the Haskell or Sassafras Sweet.

Mr. DODGE. I have seen the original tree. I think I carried the apple to Mr. Cole. "Sassafras Sweet" is a fancy name he gave it. Some of his family said it tasted like sassafras, but I could never see it. It went to New York and appeared in Thomas's book under the head, "Haskell's Sweet." That tree is on a farm in the further part of Ipswich from here, and is a very fine grower. The fruit lasts but a short time; it is generally gone by Thanksgiving; but while it does last it is very juicy; you cannot eat it without having the juice run out of your mouth like that from a cider-mill.

Mr. CLEMENT. I have left them as long as they would hang, and I find they are vastly better to hang until they bleach out. They will be quite light-colored, and have more of this high flavor, and the juice will run out of the mouth, as you say. It is a most capital apple. I have had some of them until within a week. I never saw better fruit, and scarcely any tree more prolific, for the spurs set from where the branches start from the stem throughout. The spurs grow all round the tree in just

such form as is right and proper to enable the tree to sustain an immense weight. They are almost, in that regard, equal to the old-fashioned Green Winter Sweet ; and I think I saw, some few years ago, at an exhibition in Boston, that Robert Manning had one plate of apples labelled "Pelham Sweet," and another "Green Winter Sweet." I told him the two were identical. He had not, up to that time, thought of that fact. His father had obtained them under these two different names, (and he was a man who wanted to test everything he heard of,) and so his son had these two plates of apples, which were identical, labelled with these two different names. This is one of those varieties that grow so full on the inside as to support an enormous weight, and it is very prolific. The tree, by the way, is not literally healthy ; it is liable to canker and to black circles round the bark ; and without very high cultivation the apples are poor, a light yellowish color, dry, and not half as good in quality nor half as large as those growing on nicely cultivated trees. When well cultivated they grow to pretty good size, are very juicy, and hold green all winter ; while others, grown on a tree three rods off, perhaps, that are neglected, will be small, and turn yellow in the same length of time, and nobody not familiar with them would suspect they were the same apples.

There is one more variety of which I had forgotten to speak—the Orange Sweet, as it is called in some places. I think Mr. Cole remarked to me once that it should be called the Russet Sweet. It is ripe in September and October, and is an enormous bearer. It is a good autumn market apple ; not so good until fully ripe, and then it is very sweet, rather juicy, and I regard it as very profitable to cultivate, if any sweet apple can be so, because you can get such remarkable crops. From all the young and vigorous trees that are well cared for you will get a good crop every year, and they sell pretty well, or did this year, at least. They sold readily for five dollars a barrel in our Lowell market at the season of picking. But even if it would not sell, I should regard it as worth raising for swine or for cattle either. That is another advantage in raising an abundance of sweet apples. If we ever have a surplus beyond what we want to use ourselves, and what the markets will take, we can cook them and use them as food for our stock to advantage. I have no doubt that it is profitable to raise sweet apples for

stock and for swine. I know that some of my neighbors have tried the experiment with pigs and store hogs, in years when there was an abundance of apples, and they were hardly worth carrying to market, of boiling apples and feeding them to their pigs; and I have heard many of them remark that the pigs grew just as well as they would on something else. I do not mean that they were fed on apples exclusively, but apples mixed with other things; and from experiments I have tried myself, I have no doubt that it is so.

Mr. HUNTINGTON. Is there a Strawberry apple?

Mr. CLEMENT. Yes, sir. It is a New York variety, I think. There is an early Strawberry apple, certainly; I don't know whether there is another or not.

Mr. HUNTINGTON. Ripening about September, I think?

Mr. CLEMENT. Yes, sir. I bought a tree at auction once, and kept it a good many years. Once in awhile it would blow, but I could not get many apples from it. I never got half a peck at a time. We would get occasionally a few small apples, red all round, handsome, but too small and too poor a crop, and I worked the tree over to something else.

Mr. HUNTINGTON. The tree I am thinking of grew in Woodstock, Conn.; a large apple, very fine flavor, and not altogether red; striped, but a very handsome apple.

Mr. CLEMENT. Now, in relation to the expediency of growing apples. If a man has a sandy soil, or a soil that is low, and wet, and heavy, and cannot be sufficiently drained, I certainly would not recommend him to go into the raising of apples extensively, or any other fruit. I do not believe good apples can be raised on what we call pine plains. I have known persons to plant trees in such soil very frequently, but I never knew any apples to come from them.

A MEMBER. Do you know anything about the Red Russet?

Mr. CLEMENT. I have seen the apple in one or two instances, and I am told that it is very fine fruit; I have not tasted it. I am hoping to have some next year; but my hopes may be blasted, as they are sometimes.

Mr. HUBBARD. I have heard it remarked by some that they have had the Northern Spy set out for a considerable time, and do not get any fruit, and they have become almost discouraged with it; and I have heard others say, that if they would be

patient, they would get fruit. What do you know in regard to the Northern Spy?

Mr. CLEMENT. Some fourteen or fifteen years ago, an acquaintance of mine said he could furnish me with some Northern Spy scions. I had heard a little of the apple, and said I would like a few; but when the scions came, my trees having all been grafted, I had no stocks to work them in except one pretty large Blue Pearmain tree. I cut the head from that, and worked the Northern Spy into it. It did not bear, until the seventh year, more than half a dozen apples, then it bore an excellent crop; as fine a crop as I desire to see on any tree. It rested a year then, like the Baldwins, which bear alternate years; and that is the case with almost all varieties which bear so fully as does the Baldwin. The second year, it bore another most excellent crop; they were very large, very tender and nice. I noticed that some of the apples would break upon falling from the tree. The skin is tender, like the Porter, and, like the Porter, they must be handled very carefully. I noticed at that time, that before they were fully grown, many of them began to decay, so that at harvesting time, there were a good many speckled a little, and a good many more that appeared as though they would be before long. We managed to sort them and sell them off early, and got a good price for them. But the next year when it should have fruited, which was a year ago, our apple crop was very generally a failure; and though the Northern Spy fruited, I think, as well as the Baldwin, it did not do so well; it had some apples, but they rotted a little. This year, it fruited again. I supposed, if it had borne a full crop last year, it would not have fruited this, but it did, and bore a pretty fair crop. But it had that old habit—a good many of the apples decayed; and I noticed, the day before I started to come here, that there were quite a number that were beginning to speck. I am a little doubtful in regard to that apple. I would not recommend anybody to propagate the tree extensively. It might be well enough to have one or two trees, but I am apprehensive it is not a profitable apple, not because it does not bear enough, but because it does not keep well enough. It appears to be a good, healthy tree. It is a clean growing, nice tree, has no black wood, and is late in putting out in the spring. We can lift them in the nursery up almost to the last of May. It is a little later

than the Williams in putting out, and makes a beautiful head, and handsome, straight stem. We rather like it, on many accounts, but I fear it will not be profitable. I will not say it is not, but I should rather give it further trial before deciding that point.

I would like to say a word or two in relation to pears. And on that subject, I hardly know where to begin, because I do not regard pears as a fruit which people can propagate and succeed with as they do with apples; and I am quite sure, that in the north part of Middlesex County, if a farmer were to buy a hundred pear trees and set them out as he does apple trees, he would be a little better off to give the money to the nursery man, and leave the trees also with him. Unless he takes some special pains to get the right spot of ground, and prepares it with reference to the growing of pears, unless he shall have an open subsoil, and protection from the high winds, and the many other things which operate upon the pear tree to injure it in foliage just as it puts out in the spring, he will not succeed. I have tried the pear somewhat extensively, and it has been a failure with me, and all my neighbors who have tried it have failed. I have noticed, that in starting in the spring, there will come a windy time, and the leaves will thresh and blacken. The pear opens an exceedingly tender leaf; I know nothing more so. If anybody in the county is going to plant pear trees, he had better do it on a limited scale.

Mr. IVES. There is no doubt about that.

Mr. CLEMENT. In making your preparations to plant pears, select your land where the trees will be sheltered from the wind. Here allow me to say, that we have some pear growers in Lowell, and in all our villages, where they make the soil. They dig a trench and fill it up three or four feet deep with different kinds of soil and rubbish, and a great deal of street manure, and thoroughly drain, so that the roots can penetrate clear down through the four feet; and then they protect the trees by high fences or the walls of buildings. There they get great pears, and good ones.

Mr. HUBBARD. It was said yesterday that we ought not to trench deep, so as to induce the roots to penetrate down beyond the reach of the sun; they should be kept as much as possible

on the surface. You speak of trenching four feet. That would carry the roots down beyond the reach of the sun.

Mr. CLEMENT. It ought to be remarked, at this juncture, that the pear is different from the apple; it inclines always to strike its roots down deep. You scarcely ever find pear roots on the surface, no matter where you go. They do not need to lie near the warm surface; and this soil which has been made is not a cold place, by any manner of means. One reason why the pear succeeds in such places, I think, is because it needs higher feed than the apple, and in this soil, which is made and filled up with street manure, which will decay by degrees and be rich for a long time, it gets higher feed and more nourishment than it could possibly get in an orchard, planted as we plant apple trees.

Mr. DODGE. I was told by a gentleman who has an orchard in Wenham, who is a very observing man, that he used street manure about his trees, and got the iron which is ground off of the wheels of carriages and the shoes of horses, which he said makes the trees healthy.

Mr. CLEMENT. Here again is another element. Wenham is in the lower part of this county, and I have always heard that in that part of Essex County there is a clay soil, which is very favorable to the pear.

Mr. DODGE. There is no clay in the soil I speak of. Further off, in Ipswich, there is clay.

Mr. CLEMENT. Then it is remarkable; but still, he may furnish the clay by the application he makes. My experience and my observation all lead me to believe that pears will do vastly better where there is considerable clay.

Mr. DODGE. A gentleman says there is some clay in Wenham. Judging by the surface, I thought there was not.

Mr. CLEMENT. If there was not originally, I should suppose there would have to be some applied to supply the deficiency.

Then I would ask, do you want pears for your own family or for market? If for your family, you will want some very early, some in the middle of the season, and some late. I have observed a great many pears as well as apples, their bearing qualities, and all their other characteristics; and I have found, that for an early variety, the Rostiezer is capital.



The Dearborn Seedling is a good pear also. In a warm soil it is excellent with us.

Mr. IVES. It is a very good pear.

Mr. DODGE. Excellent with me—none better.

Mr. CLEMENT. Then there is the Bartlett. A little tender in tree; sometimes liable to freeze to death.

A MEMBER. How is the Bloodgood?

Mr. CLEMENT. With me, one of the more hardy kinds. It never has suffered by blight, like some others. I should say that it is a good pear.

Mr. DODGE. Why is not the Bloodgood cultivated, if it is so good a pear?

Mr. CLEMENT. It is not cultivated extensively. One reason is this: It is not a very attractive pear in its appearance; it is a little too small, and the color is not attractive. It is early, and does not keep long. The demand for the trees is limited, and usually for private families. A man never buys more than one or two simply for his own use. It is not so well adapted to the market as others, because it is not showy enough.

Mr. DODGE. Is the Madeleine worth cultivating?

Mr. CLEMENT. It is earlier than the Rostiezer; but if my observation is worth anything, I would say it is a tree exceedingly liable to blight, and the fruit liable both to break and rot.

Mr. IVES. It is tender, and discarded almost entirely.

Mr. CLEMENT. It rusts upon the tree. It bears pretty well sometimes, and then it is astringent.

Mr. IVES. Sometimes astringent; a great bearer; not worth cultivating.

Mr. CLEMENT. I sell a few every year—not many. No man would care to have more than one or two of the Madeleine.

Then, to come to something later, there is the Bartlett, which cannot be discarded. No man would feel that he could do without it, if he could get it. The Louise Bonne de Jersey is remarkably prolific and an early bearer. I think quite as good on the quince root as on the pear; I do not know that it is any better. It is a good market pear, ripening in October, after the Bartletts are gone, and after the flush of fruit in September is over; and sometimes we have had a great flush of fruit in that month. The Louise Bonne de Jersey always sells well here. It is large, and makes a fine appearance. Then the Duchess is still later.

A MEMBER. What do you think of the Belle Lucrative ?

Mr. CLEMENT. The Belle Lucrative is sweet, melting and buttery. I don't think it is that turtle-egg butter that Professor Agassiz spoke of, but butter that is a good deal better—butter that relishes.

A MEMBER. How is the Flemish Beauty ?

Mr. CLEMENT. The Flemish Beauty is a nice, clear-growing, hardy tree, (nice as the Bartlett;) but sometimes the fruit cracks badly and is almost a failure. At other seasons it is remarkably good. In some localities it is capital; in others, insipid. It rots inside first. You may think you are going to have something nice, but if you happen to pinch it a little hard your thumb will go through. There is a great demand for the tree, and will be for the present.

A MEMBER. Would you recommend the Beurre d'Amalis ?

Mr. CLEMENT. I believe I would not, notwithstanding it is liked by some. It is a rampant and very sprawling grower as a nursery tree; I hardly know how it appears when in the orchard. It is a tree that needs severe cutting to bring it into form. The pear ripens early, and decays rather early, I believe.

A MEMBER. It rots at the core.

Mr. CLEMENT. I had that impression, but I did not like to say so emphatically, because I did not know. It is astringent; or perhaps I ought not to say astringent. It has that flavor which suits some palates—the champagne flavor, so called. I have no fancy for it.

A MEMBER. What do you think of the Maria Louise ?

Mr. CLEMENT. The Maria Louise I do not know. I remember, when I first began to raise trees, I came down to Salem and bought a lot of trees from a man, and among them was a Maria Louise; but I never got a single pear, although I had it twenty years. It died last year.

A MEMBER. The Belle Lucrative ?

Mr. CLEMENT. I have spoken of that. It is a capital pear, but in our locality liable to blight in tree; to die off, branch after branch, until it is gone; and sometimes a tree will die outright in one season.

Mr. DODGE. That tree never blights here, and is considered by many cultivators at the head of the list.

Mr. CLEMENT. I would say, too, that it is one of the best pears, when you can get it to bear ; but so long as it is liable to fail with me, I would state that fact. If I could keep them alive and bearing, no amount of money would tempt me to part with them.

Mr. IVES. Is your soil moist or dry ?

Mr. CLEMENT. I had a row of Belle Lucratives beginning in a hollow and extending on to a hill.

Mr. IVES. In a clay subsoil ?

Mr. CLEMENT. I think not. I think there is but little clay in my soil, any way. It is not adapted to the growing of pears. I remarked, in the beginning, that pears with me had been failures. But I have seen them grown in the city of Lowell very large and fine indeed.

Mr. IVES. I have seen the blight on the Belle Lucrative.

Mr. CLEMENT. The Duchess is the pear more generally planted in our region than any other late pear. It grows large, and some say it is a capital pear ; others, that it is about second-rate ; and occasionally a gentleman will say it is third-rate. Opinions vary in relation to the quality of the fruit ; but at any rate, no matter about the quality, it is profitable to raise, because you can always sell it, and at a high price. It is so fine in appearance, that, coming at a season when fruits are comparatively scarce—in November (it can be kept up to December sometimes, but November is the month for it)—it always commands a high price. I hear of their being sold for six dollars a dozen.

A MEMBER. What varieties of pears are least liable to throw off their leaves before frost comes ? I find a good many of mine throw off their leaves four, five or six weeks before the fruit matures. Some varieties do it every year.

Mr. CLEMENT. I am glad that matter has been alluded to, because I might have overlooked it. I have had some such experience myself. I should say that the Flemish Beauty was the worst in regard to that ; it casts its foliage before the pears are ripened. Of course the fruit is thus left unprotected, and the pears are worthless. The Louise Bonne de Jersey does the same thing sometimes. My grounds, however, are not a criterion by which you can judge of these things. Another man's experience would be different from mine, especially where there

was clay in the soil. I do not think there is any clay in my soil, and some of it is hard-pan. After you get down two feet it is pretty hard, and in some places we have to use the pick. It is ill-adapted to the growing of pears, in my estimation. Very frequently the Flemish Beauty foliage comes entirely off and leaves the pears naked ; and sometimes the Winter Nelis does, but less frequent than the Louise Bonne de Jersey.

A MEMBER. Does the Urbaniste ever shed any of its leaves ?

Mr. CLEMENT. No, sir ; it is always good with me, but a poor bearer. I do not know why it is ; I am very sorry for it, for it is a most capital pear. I have seen them raised in Lowell which were exceedingly fine ; but on my grounds it is one of the poorest bearers we have.

A MEMBER. How about the age ?

Mr. CLEMENT. These have age enough. That is to say, they are twenty-five years old, and ought to bear in that time.

There are a great many other things which might be said in relation to these fruits ; but I have already occupied too much of your time, and there are some experienced fruit-growers in Essex County, which is famous for them, and I would much rather hear from them than say anything more myself.

Mr. DODGE. Have you had any experience with the pear which is considered the best we have—the *Beurre d'Anjou* ?

Mr. CLEMENT. I have no doubt myself it is one of the very best of winter pears—better than the *Winter Nelis*. It cannot be kept quite so long, perhaps, as the *Winter Nelis*. It makes a beautiful tree, forming a pyramidal head naturally, without much clipping or pruning, and the fruit is large and fine in appearance. I remember once, hearing Colonel Wilder make a remark like this : that he had spent \$20,000 in importing pear trees, and if he had never got any other than the *Beurre d'Anjou*, that alone would pay the nation in his opinion. I remember, too, that on one occasion, about the last of January or early in February, he brought to Mr. Flint's room at the State house, where the Board of Agriculture were in session, one of those *Beurre d'Anjou* pears, which had begun to rot upon the outside, and stated that several days prior to this he had scooped this little speck out, and had brought this specimen up there to show that they could be kept sometime after beginning to decay by scooping out the decayed spot. They never begin to rot at

the core, but when they decay begin on the outside, so that it is always perceptible.

Mr. HUBBARD. If the gentleman had gone a little further back, and told us what should be the mode of procedure in raising pears, it would have been of great value to us. I have noticed, so far as my experience has gone, that there is an increasing interest among the people in regard to fruit, and more and more fruit trees are continually planted; but only a small proportion of those who have set out trees have met with much success. Now, it has occurred to me, that the difficulty was, that they have heard these accounts of various kinds of pears, that they were very nice indeed, and upon that have purchased the trees and planted them. Now, what people want to know is, what shall be their course of procedure when they purchase those trees and plant them, to bring them into bearing condition, and to have them flourish well. There are a great many people who have purchased apple trees, and set them out, and I have followed the trees along, and noticed that they never succeed in getting anything; and it seemed to me that it was to be attributed not so much to the soil as to neglect. In the discussion this forenoon, we talked about the root crop and everybody said it needed constant care; that the weeds must not be allowed to grow; that if they went a week too long, it was a serious injury to the roots. Now, if we set pear trees or apple trees, or any other fruit trees, must they not have as much care as we give to these other things? The idea seems to be that all we have got to do to obtain plenty of fruit for our tables, is simply to pay a dollar or two for a tree and set it out. That is very little indeed; but are we going to get, in a few years, delicious pears from those trees that we set out, without giving them the care which we heard this morning all these other things need?

I hope Mr. Clement and others will take up this matter, and let those who wish to set out trees understand that something more is required than purchasing and planting a tree to get the fruit.

R. RAMSAY. With regard to one apple, the Northern Spy, I would say a word, because I fear that some will be deceived by it. If a friend should give them the apple, they would say, "Yes, I will certainly have some of those trees, or, I will have

some of those grafts, if I can get them." I have spread round too many of them, I am afraid. Some of my neighbors got a tree or two, and they would almost guard them at night, they were so choice. The tree grows thriftily, evenly, makes a pretty head, grows very thick and bushy. I got a few of the grafts. I had a tree that had never developed its fruit, and I thought if I could get some of these grafts to put into it, I should get some fruit. I did so, and at the proper time after grafting, I got the fruit, and it was excellent fruit, splendid fruit; but it had that defect which the gentleman tells us it has—the apples would rot on the tree. I had apples of that kind which grew until they measured, I think, from ten to twelve inches, and then prematurely ripened on the tree and fell off. But I would give them to my neighbors to taste of, and they would all say, "That is a splendid apple." The tree that I took these grafts from had been standing twelve or fifteen years, and my neighbor who owned it had got vexed with it, and wanted to cut it down. "No," I said, "bear with it," and he did. He has raised some of the fruit, but there is the same difficulty about it. I have given away a good many grafts of the kind, but I think the tree is an unsafe one to raise, though there is no better apple grown, if you can get it; but there is the difficulty. It has a tender skin, will rot on the tree, and is not what we want. The New York Northern Spy is a different apple. It seems to be born in a different climate, and keeps better. One of my neighbors tasted of it, and gave it great praise. He brought the seeds home, and said, "Be very careful of them; I want to raise some of the same kind." He knows about as much in regard to raising fruit as a great many other people. I speak of it to caution people against experimenting with this tree.

HENRY K. OLIVER, of Salem. Mr. Clement has spoken of the difficulty of cultivating pear trees. I have had but little experience, but the little I have had has not been attended with much difficulty. I moved to Lawrence from Salem in 1849, when the town was rather in the rough. After building a house, my great desire was to make the most of what little garden there was. There was something like five thousand feet of exceedingly sandy land. The soil was so sandy, that it was necessary to cart off a considerable portion, and I carted off, I should think, six or eight inches of the depth of the whole five



or six thousand feet. I then brought in from the meadows and from a clay bed in the neighborhood, I should think three times the amount I had carted off of clay, meadow mud, and leaf mould. Those three articles I very thoroughly worked with the sand. I trenched from one side of the garden to the other, throwing back the sand, and mixing the other materials in. That I did in the fall of the year, and in the spring, I set out about twenty-four pear trees, eight feet apart, of the kinds known about here as the most valuable. I took no particular pains, except to set them out regularly, and there I let them stay, and they took care of themselves. If I found a branch sticking out, I trimmed it off, desiring to have pyramidal shaped trees; and from 1852 down to 1866, those trees (with the exception of two or three which from some cause, I don't know what, died,) have borne successive crops of pears, and in most years, the crop has been exceedingly abundant. Now, whether the mixture of soil which I made is peculiarly adapted to the pear or not, persons more familiar with such details can answer, but these are the facts in relation to the growth of fruit in my garden at Lawrence, on the banks of the Merrimack. My trees were all dwarfs.

Then there is another point which I have not heard mentioned here at all, which I should like to have gentlemen with small gardens think of a little, and that is, the cultivation of double dwarf trees in pots or tubs of the capacity of about a pail. A painter's tub about twelve or fifteen inches across, and the same number of inches deep, or a large sized flower-pot, fifteen inches across and fifteen deep, should be filled with carefully prepared soil, and the tree planted. I begin with trees about two years old; better in the fall of the year than any other time. The pot must have a much larger orifice at the bottom than ordinary flower-pots—at least three inches in diameter. When the soil is put in, it must be pressed down with the hand or rammed in; it must be rich soil, and room must be left at the top, where liquid manure can be poured in as the tree shall need it. The third year, whether the tree be peach, pear, apple, or cherry, you will begin to have fruit, and a great deal of it, for so small a tree. From a peach tree raised in that way, three years old, I took this year fifteen well grown peaches, and I have known from thirty-six to forty and even fifty taken from a

tree. The tree is within your grasp ; you can manage it, take it up, and carry it from one part of your garden to another. I should add, that you may place the pot in any convenient part of your grounds, with a good exposure to the sun, set it about six inches deep in the soil, and the tree will thrust its roots through the pot and then through the orifice, and make its way down into the soil underneath, and there feed. In the fall of the year, about the 15th of November, you will lift the tree carefully, cutting off whatever root may have thrust itself through the orifice, put it in the cellar, away from actual frost, and there keep it until the next spring. I have now some fifteen or twenty of these trees, packed away in a portion of my cellar, where the thermometer does not get down to zero, nor is it hot. In the spring, I shall replace them in the garden, and very soon the tree will begin to thrust its roots through this orifice, and feed upon the soil and go to work preparing its fruit. That is a very pleasant way to raise fruit for persons with small gardens, who want a pretty horticultural or pomological plaything. This is the mode of culture commonly pursued in Japan and China. In the garden of which I have just spoken, that I made at Lawrence, my son-in-law, who resides there now, has some forty or fifty peach trees, about a man's height ; and in the neighborhood of Boston, in the garden of Mr. William Gray, Jr., there were, three years ago, three hundred peach trees, of various sizes, raised in this way, and in the fall of the year, a very large crop was taken from them.

Mr. CLARK. What kinds have you raised ?

Mr. OLIVER. I had the Crawford, two or three varieties, late and early, the Stump-the-World, I think, and the Early York. I had only about half a dozen varieties.

Mr. TAYLOR. My excellent friend, Mr. Needham, of South Danvers, has had some fifteen years experience in the culture of small fruits, and I would like to hear from him.

Mr. NEEDHAM. It is not my province to speak in public. My province is in dealing with the fickle goddess Pomona ; and sure enough, she has been very fickle of late years. One of the greatest difficulties we have labored under in the cultivation of pears has been that we have made an error in selecting the bottoms. Nearly all the good bearing pear trees in the city of Salem and vicinity are worked upon English bottoms. Those

bottoms have very many fibrous black roots. The American varieties all have light yellow roots; but some trees brought from New Jersey, grown upon red shale soil, have answered nearly as good a purpose as those English bottoms. All those grown on bottoms raised from our old pears, such as the Button pear, have very poor roots, and will almost always blight before they are capable of being worked, and the buds worked upon them will blight, quite often, and if they once blight they will always blight, and the tree is worthless.

With regard to small fruits, such as strawberries, we in this vicinity cannot cultivate the strawberry as we would like to. We have one great plague, and that is the robin. We would like to cultivate the strawberry in hills, but if we plant those varieties we want to cultivate in that way, they want nearly a foot square to each hill to get the best fruit and the largest quantity. But if so planted, the birds come along and begin to pick, not one, but the lot; and there is no way of getting along but by covering the ground. Therefore we have to give up the larger berries and go into the small, that will bear five or six plants to the pot.

With cherries we labor under the same disadvantage. We find no fault with what the robins pick when we are picking, because that they eat; but as soon as the cherries begin to ripen they begin to pull on them. I have seen a bird strike twelve cherries in succession, and every one of those cherries was ruined, because they will all rot afterwards. They will never leave off pulling until the fruit is gone; and as the public sentiment is now in regard to destroying these birds, we labor under that disadvantage.

Another trouble is the dor-worm. I suppose it is that. We set out our strawberry plants in rows, and one of these dor-worms will come up and eat off the roots of a dozen or twenty of them just below the surface, and the plant dies. That is another thing we have to contend with. I have lost an acre and a quarter by the dor-worm this year.

Mr. WETHERELL. Does the robin eat this worm?

Mr. NEEDHAM. No, sir; I never saw the robin eat any worm. At cherry time they come in the morning two hours to breakfast, at noon two hours to dinner, and at night two hours to supper; and they will spoil sixty cherries each time; there is

one hundred and eighty a day for each bird. I believe we sold \$145 worth this year, and they ate more than that while we were picking; and how many they spoiled before, that they didn't eat, I don't know. There were four rows of late trees, and from five trees at the ends of each of those rows we did not pick a cherry. The robins came and cleaned forty of those trees.

Dr. NICHOLS. I wish simply to say that it is a matter of regret that we cannot arrive at a greater number of fixed principles which will guide us in all cases. I have noticed in the discussion upon fruits, that, after all, we seem to be able to carry away with us but very little that will be of any practical benefit, individual experience is so diverse. I have a plantation of pear trees numbering some three or four hundred, some twenty years old and some three or four; and I have endeavored to observe pretty carefully both my own trees and those of my neighbors in the northern part of the county; and some peculiar and interesting experiences have come up in the course of my connection with those trees, showing the contrary influences which govern men in their judgment as regards trees. For instance, year before last, in one plantation, where there were ten pear trees of ten different varieties, the trees were apparently in very good condition in the autumn. When I mulched round them with manure in the fall, I left them in very good condition, as I supposed. In the spring I found that every tree of the Stevens Genesee variety took the blight, and every one was entirely destroyed. Of course my prejudices were immediately raised against the Stevens Genesee. The past winter I found that precisely the same influences had been at work upon the Flemish Beauty. Every one of that variety in this plantation was destroyed in this way. The bark became black, there was a little black spot upon each leaf, which gradually extended, the leaf turned yellow, and the trees died, and I was obliged to dig them all up; so that my prejudices were immediately raised against the Flemish Beauty. What will happen next year, I don't know. So that, as regards fixed facts in the culture of fruit, it seems to me we have not many of them. There are, however, two facts that are forced upon my mind very particularly with relation to pears; first, that the pear must have a deep soil; and, secondly, protection. I am inclined to think that pears will not flourish and bear fruit if you are deficient in

depth of soil ; and I am inclined to think so from the fact, that a neighbor of mine, who pays no attention to his trees at all, has abundant and most excellent crops ; but his trees were set out in a deep soil, and are protected from the northerly and the easterly winds. I therefore think, that in setting out a plantation of pear trees, no matter what the variety may be, we can rely upon these two things as fixed facts or principles—protection and deep soil ; and I think we can, if we keep in mind these two things, reckon with great confidence upon our crops. As regards the kinds which should be planted—that is, which are the most hardy—my experience leads me to think that all varieties will take a fancy to die, in spite of all we can do ; and if I was asked which I would choose, I should hardly know what to say. I might mention the four varieties that have lived with me, and borne largely and continuously ; but I should hesitate, because some other man might rise up here and say he had had exceedingly bad luck with those trees.

Mr. OLIVER. Where is your plantation ?

Dr. NICHOLS. In Haverhill.

Mr. OLIVER. What is the soil ?

Dr. NICHOLS. Silicious, without clay.

Mr. OLIVER. How is it protected ?

Dr. NICHOLS. Mine is quite exposed.

Mr. OLIVER. Your neighbor's ?

- Dr. NICHOLS. They are finely protected by hills. The pear garden I refer to is Mr. Hale's, down on the side of the river. He has never paid the slightest attention to his fruit, having no interest in it ; and yet, in that plantation of one hundred trees, I can hardly recollect a season when he has not had an abundance of fruit.

Mr. OLIVER. The garden to which I have referred is protected on all sides.

Dr. NICHOLS. No doubt your success is due to that feature—protection.

Mr. CLEMENT. In reply to the gentleman last up, I would like to remark, that we shall always have this little difficulty he speaks of ; that is to say, we shall never get at any fixed facts by which we can be governed in all places. The gentleman says that he has met with ill-success with two or three varieties of pears in his garden ; but a neighbor, two or three miles distant,

may plant the same varieties, on soil of a little different character, and perhaps those very kinds that have died in this gentleman's garden will succeed admirably there, and some other varieties fail. It is exactly so, and I believe it always will be so ; and for that reason I advise all persons who are going to plant pear trees, to plant them on a limited scale. Try a few varieties, and find out, if you can, what varieties will succeed ; and then, if you dare, go into it a little more largely. But these failures will occur, and in some localities it will be one variety and in some another. So I have no hope that we can lay down a rule by which every person can be governed in planting trees. I have no idea that we can name a list of twenty varieties, more or less, that will succeed in all places, even within a circle of ten miles.

Dr. NICHOLS. This uncertainty prevails also, I think, in regard to the quality of different varieties of fruit. At a meeting of the Farmers' Club at Haverhill, one gentleman said he was going to graft his Vicar of Winkfield trees, as he was afraid the fruit was good for nothing. I advised him not to do so, and observed that one of our most distinguished pomologists, Marshall P. Wilder, had stated that if but one variety was to be preserved, it should be the Vicar of Winkfield. So it is that people's opinions differ in regard to the quality of fruit itself. It seems to me that in selecting pears, we should have reference not so much to the quality of the fruit as the hardiness of the tree. To be sure, the quality of the fruit is to be considered ; but a tree that is vigorous, and gives us fair fruit, I prefer to a better quality of fruit, if the tree is liable to be winter killed and is a shy bearer.

Mr. IVES. I was struck by the remark of Mr. Clement, that in some localities a particular variety of pear will do well, which, in other localities, will fail. One of the most striking illustrations of this took place at the National Pomological Convention in Boston. The pears were brought up singly and discussed. Among others, the Napoleon,—a very juicy, nice pear, in some circumstances,—was brought up. One gentleman observed that it was one of the best pears he raised, and one of the freest bearers. He was asked where his location was. It was on Long Island,—such a place. Another gentleman got up in a few minutes and said he considered the Napoleon a very poor



pear, indeed, very astringent, and an exceedingly shy bearer. "Where is your residence?" "I am about twenty miles from the gentleman who has just spoken, on Long Island, and both of us within about the same distance from the sea-shore."

It seems to me that the apple is decidedly the fruit for the farm, and not the pear. There is one very striking thing about all apples, that I noticed a great many years ago, and called attention to, in an article that I published—that apples grown on a given soil, or in a given region of country, were almost invariably, better than apples brought from abroad. I named at the time the Baldwin, the Minister, the Hubbardston Nonesuch, the Roxbury Russet, &c. I then contrasted them with the Newtown Pippin, which I suppose to be the best apple the country produces; but it must be grown on Long Island. I know a tree in this city which is a great bearer, but the owner does not consider it to be so valuable as another tree, the Hubbardston Nonesuch, which stands near it.

Then, with regard to the choice of apples, I think we had better take apples that are grown in our region. If we look over the list of apples, we shall find that almost all the finest apples have originated on our soil. Imported apples do not do well here. Southern apples do not do well at the North, nor do Northern apples do well at the South. Mr. Van Buren, of Georgia, says he has got about seventy varieties of Southern apples, and they all do well; and he says, "I have in my list the Newtown Pippin, the Foundling, the Hubbardston,"—and he names others of our New England apples—"and I don't think I have had a bushel on one tree for the last five years." We must have apples that are grown on our soil. Henry Ward Beecher says that is true of the West; that the best apples in Indiana, where he was, originated on the Mississippi, or at the West; and I think that is the case.

The gentleman (Mr. Clement) did not speak very well of the Lyscom apple. That apple, from the very circumstance of its having so many synonyms, must be a good apple. Here we call it Osgood's Favorite; up in Worcester County, you find it called Matthew's Striped; down in Marblehead it is, I am told, called the Nonpareil. I think these are all the Lyscom, raised in Southborough, Massachusetts. There are no apples that we can raise here so profitably as the Minister, the Baldwin, the

Hubbardston Nonesuch, the Rhode Island Greening, and other New England apples. The Mother apple, of Bolton, Massachusetts, is a very fine apple, and grown upon our soil.

I was a little struck with the gentleman's remarks about the Gravenstein. We thought it was going to lead the fall apples when we first cultivated it, but of late years, it does not seem to bear well, and people are dissatisfied with it. We had the same difficulty with the Flemish Beauty. It was a noble pear when we first began to raise it, on young trees, but as the trees grew old, the fruit deteriorated and became small. I recollect that at one of the exhibitions of our Society, there was a large dish of Flemish Beauties upon the table, but they were not one quarter the size they usually are, and I was troubled by individuals who came to me to know why the fruit was not marked correctly upon the table; they could not believe it was the Flemish Beauty. And it not only deteriorates in size, but it cracks. I do not think it reliable.

We have a good many pears that do very well in a sheltered garden, but not in the open country. You cannot raise Gansel's Bergamot, that delicious pear, in the country, nor can you do well with the Winter Nelis, for that is a pear that is variable; but if you want a pear that is almost, I may say quite, as melting and juicy, take the Lawrence pear, which originated on Long Island, and is a hardy pear.

In England they do not believe in raising stocks for the pear from their little shrubby pears, but use such pears as the Swansea. Here we raise a great many of our pears from the little Button pear for stocks. So far as my experience goes, I have found that there are three pears, natives of this country, and all of them of most splendid growth, that make the best stocks for pears that I am acquainted with—the Blecker's Meadow, the Rivers, and the Buffum.

Then, again, pears that have been cultivated out in the open country are hardier than others. I think the Buffum, of Rhode Island, is a very popular and good pear. That is a very good pear for raising in open culture.

I would say, with regard to those delicious pears called Beurre Boscs, that three or four years ago, when the pears were cut off very much, and all the buds of the Bartlett killed, not only were the buds of the Beurre Bosc killed, but the

trees. Mr. Cabot, of this city, lost whole trees. I lost limbs as large as my arm. The Belle Lucrative was not injured at all, either in bud or wood. That year gave us a good insight into the hardiness of trees. The Bartlett is not so hardy with me as the Belle Lucrative—I mean the tree. We find the Belle Lucrative, the Beurre d'Anjou and the Louise Bonne de Jersey to be the hardiest pears, so far as our experience goes.

With regard to the culture of apples, (to mention that matter again,) I know of but two imported apples that are really desirable and fit for our culture here. One of those is the Ribston Pippin, and the other the Gravenstein; but, gentlemen, the apples grown on our soil—those apples that originated in this State or somewhere in New England—are the best apples for you to cultivate.

Now with regard to pears dying out. It is a remarkable fact that the pear tree has always been considered to be (and I have no question that it is,) a longer lived tree, naturally, than the apple. Why, then, do so many die out? Let me remind you, that of the million of trees that have been set out in Illinois and the Western country, not one, I think, is now living. But go to Detroit, and you see French pear trees that are seventy-eight years old bearing all the time. I think there are two reasons for the loss of so many of our pear trees. One is, the feebleness of the pear stocks of Von Mon's—and most of our delicious pears come from him. He has described his method of raising pears. He says he took the seeds from his pears before they were ripe, because he wanted to destroy their luxuriance. He admitted that that mode enfeebles the growth of the tree, and that there was no compensating vigor imparted to it. Another thing is, cutting off the tap root. I suppose those large trees were set out and grew where they were planted, without any reference to cutting off the tap root. I do not know why we do that, unless it be that we may take up our trees more easily, or think that they grow faster. That may be, but for durability I do not believe that is a good plan. A few years since I was up in Lynnfield, at Hon. John B. Alley's place, and he took me into his grounds and showed me eight or ten trees that were suffered to grow up without having the tap root cut off, and they were about the most thrifty trees I ever set eyes on. He said it was not safe to take off the tap root. I

think these are the two reasons why our pear trees die out : that Von Mon's method of raising enfeebles the stock, and that cutting off the tap root shortens the life of the tree.

Mr. OLIVER. Do I understand you to recommend the raising of apple trees rather than other fruit ?

Mr. IVES. I say it is a better fruit for the farmer to raise ; it is more profitable.

Mr. OLIVER. What shall the farmer do with the canker-worm ?

Mr. IVES. I think we shall get rid of the canker-worm. It has been going from one place to another. Down here on the Merrimack, I think, it is only on one side of the river.

Mr. OLIVER. Has the canker-worm got twenty miles from the seacoast into the interior ?

Mr. IVES. I cannot say ; I only know that it is in Michigan. A former Secretary of the Michigan Society took out a tree-protector, because he wanted to see if he could not find some way to get rid of the canker-worm.

Mr. OLIVER. Are you sure ?

Mr. FLINT. There is no doubt that the canker-worm is more than forty miles from the seacoast in this State.

Mr. IVES. I was very glad to hear Mr. Clement speak of the Early Sweet Bough. I consider that the best early sweet apple we are cultivating. The number of synonyms that apple has shows its value. After having had that apple in my grounds for a number of years, and found it very fine indeed, I went into New Hampshire, and a man told me he had a sweet apple that surpassed everything. He described it as very large and fine indeed. He called it the Washington Sweeting ; but when I came to compare it with the Early Sweet Bough, I found it the same.

Mr. DODGE. I know of no tree that is so exempt from the ravages of insects and the other drawbacks that attend the plum, the cherry and the peach, as the pear-tree. It has a leaf that hardly anything will take, except the web-worm, and that is easily managed in the fall of the year. These drawbacks seem to increase as the cultivation of trees extends. No doubt a great many of these insects and diseases we have imported with our trees ; but here we have them, and a great many men feel disheartened, and are ready to sit down and fold their hands

and give up, but I do not think that is the right doctrine. I think the true principle is, the more of these obstacles we have, the more we should be on the alert to fight them in every way and shape. Take, for instance, the canker-worm. It has been more or less in my region for many years. It appears sometimes almost periodically. I don't believe in the theory that it comes once in seven years. We can show accounts of it in this region for two-thirds of a century, and I don't know but it goes back further. It behaves very strangely. We had it in our neighborhood a few years ago, and in part of the town it was on one side of the road and not on the other. It will go into an orchard and take the grafted fruit and leave the ungrafted. Well, the canker-worm came to us in great abundance, perhaps ten years ago, and my neighbors generally neglected it for a year or two, and then gave up in despair. The moment I saw them, (I had heard of them before,) I fought them hard. I bought some tarred paper and tied it around my trees, six, eight or ten inches wide, according to the size of the tree, tarred the upper part, and let the tar drip down and catch on the rope that the paper was tied with. I followed this up in the fall and winter, and never had my trees eaten badly. I always caught enough of the worms to prevent their increasing, and had fruit all the time. I saved my crops by persistency, by the determination to save them. I followed it up. The question is, will it pay to follow it up? Every man must judge for himself. I think it will. I believe the crops of apples for the last two or three years have paid the cultivator for his trouble. I have been paid. I had twenty-five or thirty barrels this year; they paid me well. So with pear trees, and every other tree that a man thinks it worth while to cultivate. Be vigilant, take time by the forelock, and keep the enemy down. I love fruit culture so much that I would willingly do almost anything. Had I been Adam, when the command was given not to eat the forbidden fruit, I would have kept that command, if for no other reason, for the sake of staying in the garden. I think that to live in a garden is next to living in heaven. I don't know as I should have liked to sit down and eat the fruit and smell the flowers without doing any work. I think if I was to live in a fruit garden I should want to work.

Mr. LIVES. There is one consolation in regard to the canker-worm: we may live to see the time when we shall not see one. Twenty-five years ago, the rose-bug was so prevalent that it used to enter the grape-houses. I have not seen one for years. There is the army worm, which made such terrible havoc—we do not see many of them now. I have heard but little complaint of late years of the onion-worm. But the thing that is the most fearful is the attack of something that you do not know. Take the plum-tree. I had some forty odd varieties. I wanted to kill the curculio. I bought six hogsheads of salt and put it on one acre of land in the month of March, and I had the greatest crop of plums that year that was ever seen in this part of the country. But these excrescences that come upon the plum-tree, we cannot find out what they are. When this excrescence first comes, it is about the consistency of cheese. I have dissected it a number of times, and I could never find an insect in it until it got to be wood. All I can say is, it is the want of something in the soil that produces that, but what it is I cannot tell. It is involved in mystery to this moment. Nobody can explain the cause of these excrescences. I took a great deal of pains to ascertain whether they are natural to the plum. I found them on the Plum Island plum, which satisfied me that they belong to the original plum. I think this thing was not known some years ago in New York; and, indeed, twenty-five years ago, the curculio was hardly known.

Mr. HARRINGTON. I was called into a gentleman's orchard this fall, and was astonished to see his trees loaded with the Williams, the Gravenstein, the Porter, the Baldwin, the Minister, the Russet, the Rhode Island Greening, the Spitzenberg; while his neighbor, to whom he had leased two acres of the same piece of ground, had no apples on his trees at all. The gentleman of whom I speak was offered sixty dollars for the fruit on one of his Minister trees, and refused to take it. I asked him how it happened that there was such a difference between his trees and those of his neighbor, on the adjoining land, with only a stake put down between them, on the same soil. He said: "I have taken care of these trees, and he has taken no care of those. For twelve years I have persevered and taken care of my trees, and now I am amply rewarded for my twelve years' patience." He took from three acres and a half about



\$1,800 worth of apples. He sold a bushel of Williams apples for ten dollars—109 apples. His Porter apples he got five dollars a bushel for; and for the Gravenstein and Hubbardston Nonesuch he got astonishing prices. Mr. Dodge is correct. Perseverance will save your fruit. There is the evidence of it. People came from all the villages round and said: "Well, Captain Pierce, you have got more apples on your three acres than we have got in our whole town." They were astonished. His neighbor had trees that blossomed, and the fruit apparently set, but the apples dropped off, and he did not have a barrel on the whole of his ground. Nothing of that sort occurred with Captain Pierce's trees. In addition to his apples, he raised twenty bushels of Bartletts and about twenty tons of marrow squashes on his three and a half acres.

Professor CHADBOURNE. It is said that one gentleman had his young fruit set well, but after a time, they all dropped off. That was very generally the case in our part of the State. I never saw apple trees blossom so well, I think, as they did this year. The fruit set and grew to the size of grapes,—some large and some small grapes,—and then the great mass of it fell off, so that you might say, we had no crop at all. I tried to ascertain the reason of this, and I found that certain trees back of my house, that are in comparatively damp, rich soil (you may say, the trees that are well taken care of,) retained their fruit; and they gave me all the fruit I had this fall, which was very little. All the trees on dry land lost their fruit. I have been disposed to attribute it to this fact. Everybody who knows anything about the habits of trees knows that after they have put out their leaves, made their wood, and set their fruit, they not only set buds for the next year, but they store up in their tissues the nutriment for the next year's growth; and I have been disposed to think that in the seasons of drought we have had, these trees were unable to gather up nutriment for the next year, and after the buds set, this great crop of fruit made such drafts upon the tree that there was not nutriment enough to support them, and they fell off. And I infer so from the fact, that those trees in damp soil in my garden, where they could store up nutriment, gave me good crops. I have made inquiries of Mr. Letherbee in regard to this matter, and find that his observation is the same. I mention these facts to see

if we can have any light upon that point, because it is a very interesting one.

**Dr. NICHOLS.** I have an orchard of four or five hundred apple trees, and my last year's experience corresponds with that of Professor Chadbourne. A portion of my trees are on the side of a hill, running up to its apex, while upon the other side they extend down to lower ground. All the apples I had this year were from the trees in the lower ground. I think the Professor's views are very ingenious, and worthy of investigation.

**Mr. STOCKBRIDGE.** My experience is directly opposite. I know of an apple orchard planted upon a dry, sandy loam, where, of course, special pains were taken in planting it, but the nature of the soil was not changed. The orchard was well manured, it has now come into bearing, and the trees have been overburdened with fruit this year.

**Professor CHADBOURNE.** That is not at all satisfactory. If that soil was in such condition during that time that the trees could find the proper amount of nutriment, then the conditions that I have referred to existed. I understand that the land to which Mr. Harrington referred was properly cultivated, and peculiarly fitted to the apple.

**Mr. HARRINGTON.** It was all cultivated. There was no portion of the soil that was not cultivated. It was all covered; you would not have supposed there was a particle of soil there. I found afterwards that his son-in-law, who lives about a hundred rods off, in a sand-bank, had done the same thing. He succeeded in getting fruit this year, when all his neighbors failed. The soil was precisely alike—all dry, sandy soil. There could have been no moisture there last year or year before last. And they mulched their trees alike. They both raised squashes in their orchards.

**Mr. BILLINGS.** I was told by that son-in-law, that the main thing in making his trees so productive was, that he expended a good deal of money for meadow hay, and mulched all round his trees, especially his Williams trees, for which he got ten dollars a bushel. He puts meadow hay under these trees for the sake of preserving his Williams apples when they fall.

The question was asked if the canker-worm has extended more than twenty miles from the seaboard. Mr. Clement has told us that Mr. Reed, of Westford, says his apples cost him ten

cents apiece, in consequence of his having to fight the canker-worm. I have understood that Mr. Reed takes the same course that Captain Pierce does. He buys all the meadow hay he can get hold of for the purpose of putting it under his trees. It prevents the growth of vegetation, keeps the ground moist, and at the same time makes a bed for the falling fruit. I believe that is the true secret of the success of those trees. I think the mulching is beneficial in keeping down the canker-worm. I believe the great thing to be done to secure success in raising fruit is to keep everything else back. You cannot have your cake and eat it too. You cannot raise two things on one piece of ground. If a man is going to raise fruit, he must give up his land to that object. The idea of raising grass in an orchard, or grain, or potatoes, or anything else, I do not believe in. If a man wishes to get a crop of fruit, he must give up his land to that crop. I believe the mulching of those trees is the main reason why they bore so large a crop.

Adjourned to 7½ o'clock, P. M.

#### EVENING SESSION.

The Board met again agreeably to adjournment, to hear a lecture on .

#### WHAT CHEMISTRY HAS ACCOMPLISHED FOR AGRICULTURE

BY JAMES E. NICHOLS, M. D.

The inquiries frequently made by those interested in practical husbandry, are such as assume the unsettled aspect of several most interesting and important questions:—"Is there reasonable grounds for hope that science will ever prove of practical benefit to agriculture?" "Will chemists ever furnish us reliable assistance in the fertilization of our fields?" Questions of this nature very naturally suggest others proper to ask, and which I will endeavor to answer, before considering whether the assumptions of the former are founded in fact or not. The most prominent one is "What *has* Chemistry accomplished for Agriculture?" This inquiry will form the main topic for discussion this evening. I fear if a response was demanded without discussion, it would not be very flattering to science; and, therefore, I am unwilling to jeopardize so impor-

tant a decision without full and fair debate. As farmers, we have a most direct and practical way in making and shaping our demands upon science. These demands may be exacting, or, perhaps, a little provoking to the toilers in the laboratory, but, after all, they do not seem to involve anything very unreasonable. The resources of science appear to be adequate to meet any demands, or sufficient for any emergency.

If we place in the hands of the chemist a mineral substance, with the view of ascertaining its exact composition or industrial value, we think we have a right to obtain explicit answers to our inquiries, and, indeed, we know the chemist is able and expects to answer them. And also, if we submit specimens of our soils, plants, roots, seeds, &c., we know if we are in the hands of a true man of science we shall receive exact, reliable responses to all our inquiries. As regards the soils, we receive written statements giving the amount of passive or mechanical agents, the sand, clay and gravel; also, the organic and mineral constituents, humus, nitrates, ammoniacal salts, the potassa, soda, lime, &c., &c. These, in quantity, are all stated with marvellous precision, and while, perhaps, amazed at the skill of the manipulator, we are not inclined to question his results. The seeds of the maize plants, the roots and the grasses, come back to us separated into their ultimate or proximate constituents, and the materials which enter into their structure are exactly stated.

These palpable results are well calculated to inspire hope and confidence, and lead us to ask, "Why cannot the exercise of the same scientific skill afford precise directions how to dress and fertilize our fields that we may obtain the maximum or highest results of our labors?" Why cannot the chemist inform us how much wheat, corn or barley any soil will produce, and, also, the kind and how much fertilizing material is needed to the acre?

What is known, or presumed to have been accomplished in this direction, leads many soil-cultivators to conclude that these desirable ends have not been reached, and much doubt is expressed as regards their attainment in the future. A considerable amount of ridicule has been cast upon chemistry as applied to agriculture, and, generally, its teachings have not been carefully and intelligently studied and carried into prac-

tical effect upon the farm. Conductors and correspondents of agricultural journals, and writers of popular works upon husbandry, have shared to some extent in this distrust of the teachings of science as applied to agriculture.

A sharp writer in one of our most respectable agricultural journals remarks, at the close of a long article upon the subject, that "scientific agriculture stands to-day with *phrenology* and *biology* and *magnetism*." "No farmer," he says, "ever yet received any benefit from an analysis of the soil, and it is doubtful if any one ever will." The author of a very popular agricultural book declares, "There is no more a chemistry of agriculture than there is a chemistry of horse-flesh or a conchology of egg-shells. Chemistry may be an aid to agriculture; and so are wet weather, and a good hoe, and grub, and common sense. Chemistry is an exact science, and agriculture is an experimental art, and always will be, until rains stop, and bread grows fully baked."

It is evidently required of chemistry by many that it accomplish for agriculture what it has for medicine or the industrial arts, or what mathematical science has for astronomy. As by the laws of motion of the heavenly bodies eclipses are calculated, and occultation of stars foretold with mathematical precision, so chemistry must be definite, precise and practical in its teachings relating to agriculture, and direct how to fertilize a field, and cause two blades of grass to grow where but one grew before.

Leaving the further consideration of this point for the present, let us return to the question, "What has chemistry accomplished for agriculture?" And *first*, what has it taught regarding the composition of, and the benefits resulting from the use of, barn-yard manures? *Second*, what regarding *special* fertilizing materials? I shall dwell more particularly upon the latter inquiry, as from a somewhat extended practical experience in the use of many special fertilizers, especially bones, a wish has been expressed to learn the results of these experiments.

The dark heaps of animal excrement which lie about the barn-yards of farmers, have, during all ages, been known to possess specific fertilizing influence upon plants; and if it were furnished in sufficient quantities to replace the elements removed from soils in repeated croppings, the labors of chemists in the

direction of seeking out new supplies of plant-food would be practically aimless and absurd. But this is not the case. The exhaustive process is continuous in all civilized communities, and it is impossible, in densely peopled sections, to maintain a satisfactory balance between supply and demand.

It was very natural, then, that early in the history of chemistry as an exact science, it should be called to the investigation and determination of the chemical nature of that material, which common observation and experience had taught to possess the natural food of plants. As regards its superlative value, no one has ever entertained a doubt, either before or since the field of chemical investigation was fairly opened. What is its composition? Allow me to present the results of some determinations of my own on this point. A parcel obtained from the yard of a neighbor, which, under the conditions in which it was produced and preserved, may be regarded as a fair representative of the article as furnished by ordinary farmers, gave the following results: A portion weighing 7,280 grains was carefully dried in a porcelain dish over a water-bath, and it was found to lose of water 5,960 grains, leaving of dry matter 1,320 grains. Of the residuum thus freed from moisture, 455 grains were placed in a platinum capsule and carefully ignited, thus removing the combustible or carbonaceous matter made up of the elements—oxygen, hydrogen and carbon. The resultant ash weighed 177 grains, showing a loss of volatile or combustible elements amounting to 278 grains. In order that the results of the analysis may be clearly understood, it may be desirable to present them without regard to fractional parts, and to estimate by the whole amount experimented with, viz., 7,280 grains. This amount gave of water, 5,960 grains; combustible or carbonaceous matter, 806; nitrogen, 29; potash and soda, 41; lime, 43; magnesia, 14; phosphoric acid, 15; sulphuric acid, 11; chlorine, 14; silicon or sand, 335; oxide of iron and alumina, 22. The points in this examination which will doubtless appear most striking, are the large amounts of worthless material which constitute the bulk of barn-yard manure, the water and sand greatly predominating over everything else.

A better idea of this may be obtained if the results of the analysis are applied to a larger amount of manure, which will



give the constituents in pounds. Assuming that a cord of ordinary barn-yard manure will weigh 3,000 pounds, its actual value as a fertilizer may be presented as follows: There are contained in it of water, 2,456 pounds; common sand, 138 pounds. These added together give 2,594 pounds of perfectly worthless substances. Now, if we still further subtract the carbonaceous matter, 832 pounds, which is of no more value than muck, peat, straw or chaff, we have left only 74 pounds of active fertilizing material which has a money value. To obtain this 74 pounds, which really is all that is valuable, the farmer loads and hauls upon his field 3,000 pounds, or one and a half tons of a compound in which there is water enough to do the weekly washing of a small neighborhood, and a sufficiency of sand to keep the kitchen floor tidy for a month. The 74 pounds of mineral salts might be taken in an ordinary bushel-basket, and carried upon the shoulder to any point desired. In this amount there is the nitrogen, potash, soda, lime, magnesia, phosphoric acid, sulphuric acid, chlorine, iron and alum. In estimating the market value of these substances, we may obtain the nitrogen by the use of crude nitrate of soda or sulphate of ammonia, at a cost of \$2.60; the potash, soda, &c., in one and one-half bushels of good wood ashes, at 35 cents, and fifteen pounds of common salt, ten pounds of bone-dust, three pounds of gypsum will supply the remaining constituents, at a cost of fifty cents. If we estimate the carbonaceous matter at ten cents, we have, as the actual cash value of all that promotes plant-growth in 3,000 pounds of barn-yard manure, the sum of \$3.35. There are but few localities where the farmer can purchase manure at less than \$7.00 the cord; and when to this we add the expense of hauling and applying to fields, we find there is a wide margin between the cost of the isolated valuable constituents of manure, and the article as furnished in its natural condition. Barn-yard manure may be imitated by thoroughly composting with a cord of seasoned meadow muck sixty-five pounds of crude nitrate of soda, two bushels of wood ashes, one peck of common salt, ten pounds of fine bone meal, two quarts of plaster and ten pounds of epsom salts. The cost of this compost will not be over \$3.50 the cord, and ought, other things being equal, to serve as good purpose in the field. In practical trials of this mixture I have found that while it serves

a most admirable end, giving very satisfactory results, it does not act so rapidly and energetically as manure ; but its effects are more lasting. In short, the same salts and organic matter as found in the dung-heap, have a higher money value, and seem to exert a more specific influence upon plants, than when presented in artificial mixtures. By substituting nitrate of potassa, or saltpetre, for soda, the compost is greatly improved, while its cost is enhanced. If the salts are dissolved in water,—those that are soluble,—and the bone in ley, and good muck is employed, a compost is formed very nearly as valuable as seasoned excrement. Very nearly, we have said—why is it not of equal value ?

We have reason to believe it is owing to a minuteness of the subdivision of atoms, which we can neither produce nor comprehend,—a degree of comminution which sets at defiance all mechanical and chemical manipulation. Beside this, there is, however, a peculiar condition arising from, or communicated by, the contact of vital forces, which science is incapable of explaining. A physician once brought to me a jar of ox's blood, with the request that I would extract or isolate the metal iron therefrom, and place it in his hands. In answer to inquires as regards its uses, he stated he wished to employ it as a therapeutic agent, under the impression that iron once assimilated would have a higher and more natural influence when passed again through the animal economy, than the usual forms of the metal from other sources. His hypothesis was undoubtedly correct, and while it was quite within the power of chemistry to isolate the iron from the blood, it was impossible to secure it in the *condition* in which it existed in that fluid. That condition is indeed a peculiar one, and its presence is not indicated by any of the usual chemical re-agents. If we applied to it simply the usual manipulating processes, chemistry would fail to show that there was an atom of iron present in the blood of men or animals. This may illustrate the difference between the fertilizing influence of metals and salts, as found in animal excrement and as existing in other, or the usual forms. The iron as found in the blood, if administered to an enemic patient, would without doubt immediately, and by direct and easy processes, again pass to its appropriate place, and restore the sanguineous fluid promptly to its normal condition.

But chemistry can never furnish it in that form, neither can it supply the mineral constituents required by plants, precisely as found in manures; but this must not lead us to disparage science and reject its teachings. We will accept what it does teach with sincere thankfulness. We will use as a medicine the best forms of iron it suggests, and they are many and of great efficacy; we will employ those fertilizing agents which it has pointed out as possessed of merit, and they, also, are many.

The impression entertained by some that chemists underrate and disparage barn-yard manure, is an erroneous one. It has no foundation in fact. They labor to multiply sources of this material, and the most important service rendered by it to the farmer is in the methods it points out whereby it is economized, and its efficacy preserved. In this particular, chemistry has accomplished much for agriculture. Would that soil-cultivators gave heed to its suggestions; then, indeed, would there be less demand for other agents.

But, secondly, let us consider what it has done in the way of furnishing a supply of these. Here we find the evidences of the exercise of a wonderful intelligence and industry,—a persistent scientific labor hardly excelled in any other field of research. It has analyzed and demonstrated the great value of decayed vegetable matter, as peat or muck; and given reliable directions how to fit it for manurial uses. There is scarcely a substance upon the land or in the sea that has not been made the subject of careful examination, with the view of ascertaining if it contained those principles capable of nourishing plants. As the results of these labors, we have a class of substances which, in contradistinction from animal excrement, or barn-yard manure, are called “special” or “chemical” fertilizers. Perhaps no article of the class has received more attention in this country and in Europe, than bones, and they have become a standard article of commerce. They are presented in the natural condition, as found in animals, or in that of a powder of variable fineness. Dissolved in acids, before or after calcination, they are called “superphosphates,” and in this form are largely employed in agriculture. The term “superphosphate” is a popular one, and advantage is taken of this to palm off upon unsuspecting farmers all conceivable compounds of meadow-

muck, human excrement, blubber and fish oil, gypsum and charcoal, as the genuine article.

I had the curiosity, recently, to inquire of a most excellent farmer friend what was contained in some suspicious looking barrels which had been rolled into his yard. "Superphosphate," he replied. "Ah, superphosphate of lime, I suppose, for your corn-field." "O no, I think not," said he, "it is *genuine* superphosphate, and no *lime* is mixed with it." I expressed the opinion that he was probably correct; that the mixture was innocent of lime, as found associated with phosphoric acid in bony structures, and yet it was a little puzzling to know how it could be "genuine superphosphate."

Superphosphate of lime, or that compound formed by dissolving finely ground bones in sulphuric acid, is a most excellent fertilizer. There is scarcely any land in New England that will not under its use, render highly remunerative returns, but we cannot depend upon manufacturers for it. Every farmer must make it upon his own premises, and I insist, that it can be produced readily, safely, cheaply. Let me present to you the method which I adopt upon my own farm premises.

Take a common sound molasses cask, divide in the middle with a saw, into one-half of this, place half a barrel of *finely* ground bone, and moisten it with two buckets of water, using a hoe in mixing. Have ready a carboy of oil of vitriol, and a stone pitcher holding one gallon. Turn out this full of the acid, and gradually add it to the bone, constantly stirring. As soon as effervescence subsides, fill it again with acid and add as before; allow it to remain over night, and in the morning, repeat the operation, adding two more gallons of acid. When the mass is quiet, add about two gallons more of water, and then gradually mix the remaining half barrel of bone, and allow it to rest. The next day it may be spread upon a floor where it will dry speedily if the weather is warm. A barrel of good loam may be mixed with it in drying. It may be beaten fine with a mallet or ground in a plaster mill. If several casks are used, two men can prepare a ton of excellent superphosphate after this method, in a day's time. It affords a prompt fertilizing influence, especially upon root crops, even when employed alone. Much less acid is used in this formula than is demanded to accomplish perfect decomposition of the bones; but it is

important to guard against the possibility of any free sulphuric acid in the mass.

Another most excellent method of preparing bones for field use, is to dissolve or saponify the gelatinous portion by the employment of caustic alkalies. For this purpose, take 100 pounds, beaten into as small fragments as possible, pack them in a tight cask or box with 100 pounds of good wood ashes. Mix with the ashes before packing, 25 pounds of slaked lime, and 12 pounds of sal soda, powdered fine. It will require about 20 gallons of water to saturate the mass, but more may be added from time to time to maintain moisture. In two or three weeks the bones will be broken down completely, and the whole turned out upon a floor, mixed with two bushels of dry peat or good soil, and after drying it is fit for use.

This mixture, embracing nearly or quite all the great essentials of plant food, is one which in its application, will afford most prompt and satisfactory results. Its production cannot be too highly recommended.

The employment of bones in their raw condition after grinding, has not generally been attended with results entirely satisfactory. Notwithstanding the published recommendations and testimonials, the fact remains, that the general verdict is not in their favor. My experience in the employment of this form of fertilizing material, has been considerable, having used many tons during the past four years. Chemical analysis of corn and wheat, taken in connection with that of bones, would seem to show that they do not contain a sufficiency of the nitrogenous element to render them specifically beneficial to those cereals. And I have found in practical trials that they often exert but indifferent influence upon corn and wheat, when used uncombined or in a raw condition. This is especially true of steamed bones, where a portion of the gelatine has been removed in the manipulating process. When specifically employed upon soils appropriated to corn or other grain crops, failures either partial or complete, have been often experienced; but upon those designed for roots, or some varieties of vegetables, success is uniformly certain.

Bones are made up of an earthy tissue of fine cells, in which an organic substance—gelatine—is inclosed. The gelatine holds the nitrogen, and undergoes putrefactive change, when moist-

ened with water, with access of air. Ground bones undergo no change when air and moisture are excluded, and without this the powder is no more fitted or adapted for plant-food than pebble-stones or powdered glass. The putrefactive fermentation is attended with a copious evolution of heat; new bodies are formed, and disintegration of the structure takes place. The earthy constituents are composed principally of phosphate of lime. The best specimens I have met with, gave, approximately, of animal material and water 35 per cent.; phosphoric acid earths, 47 per cent.; carbonate of lime, silica, &c., 18 per cent. A direct estimation of the nitrogen, gave, in 1,000 pounds, of bones, 50 pounds; of phosphoric acid, 240 pounds; of lime, 330 pounds. Hence we find they afford about 20 per cent. of nitrogen in their fresh condition. The phosphoric acid, however, greatly preponderates. Of this they furnish a rich supply.

In carefully studying the causes of failure of bones, when applied to the production of the cereal grains, it is evident we cannot *always* attribute it to want of the nitrogenous principle, as in addition to what it is capable of furnishing, other sources of supply often exist in the soil fully capable of meeting deficiencies.

In considering some general causes which operate to prevent full and legitimate good results following the application of bones to soils, we shall see that the method or form of employment may have much to do with such failures. Adverse influences may be due, first, to adulteration in the bone material; second, the want of proper preparation before applying to the soil; third, unfavorable seasons. The first is an evil of very great magnitude, and one which can and ought to be abated. Every dollar accumulated by the industrious farmer is usually earned by the sweat of the brow, and he ought, particularly, to be exempt from speculation and fraud. Pulverized oyster and clam-shells, mixed so largely with bone-dust by some manufacturers, exhibit a form of dishonesty particularly reprehensible, and are a source of great loss and disappointment to the husbandman. It is pleasing to know that all mill men do not practise this fraud.

The want of proper preparation is a fruitful source of failure. Bone-dust ought always to be composted or rotted before using.



It should be layered with good muck or soil, and kept moist until thorough decomposition results, and then it is fitted for the field. A gill of dry bone-powder, placed in the opening prepared for a hill of corn, and covered with moist earth, heats rapidly; and I have found that in forty-eight hours a thermometer with the bulb buried in the mass indicates a temperature of 112° Fahrenheit.

This temperature is fatal to the germination of seeds, and beside the formation of caustic ammonia by the putrefactive change of the gelatine, furnishes an agent, when in excess and direct contact, equally as destructive as heat. Hence we learn why corn and other grains sometimes not only fail to flourish under its influence, but are absolutely destroyed in the germ. This heating, decomposing process should be effected prior to placing it in contact with seeds. The peat or soil used in connection with it effectively absorbs all ammoniacal and gaseous products, and holds them firmly, until abstracted by the fibres of the plant-roots in search of aliment.

This is not the time or place to present details of observations and experiments with bones or other fertilizers. In fact, there is much that is strictly empirical in such statements; they are entangled with so many modifying and distracting circumstances that they possess but little value.

The experimental labors undertaken upon my own farm have led me to adopt certain general conclusions as respects the teachings of chemistry and methods of employment of special fertilizers, which will be stated before I close. I have employed in these experiments a great variety of substances, under all possible forms and conditions, and have had regard to hygrometric and thermometric influences.

The analysis of soils constituted a prominent part of the labor, and it was in this direction that I expected chemistry would furnish most important aids.

It was soon apparent that but imperfect guidance was to be afforded by these analyses, however carefully conducted. In fact, the very perfection of the results, the exhaustive nature of the processes, created confusion and doubt, inasmuch as they revealed the presence of elements amply sufficient to meet the wants of plants; and yet they would not flourish in those soils.

Chemical reagents make palpable that which vital processes cannot force from their hiding-places. Acids dissolve hard and refractory substances ; the tender spongioles of plants can only seize and appropriate those which are already in a state of solution. Hence, chemical research may demonstrate the presence in any given soil of the different forms of food which they require ; but if the experimenter authoritatively announces to the farmer that it is fertile and capable of bearing crops, he is in danger of incurring contempt and ridicule, as practical trial disproves his science and his statements. The elements of fertility must not only be present in a soil, but they must exist in an assimilable form. To determine the presence and amount of the useful substances is not enough ; research must proceed further, and declare the *condition* in which they exist. There is very great liability to be misled in analyses of this character, and chemistry has failed to afford much practical aid to husbandmen in this direction.

I have found that soils holding but very disproportionate quantities of those elements which a particular crop required, would nevertheless produce it in fair abundance. I have to confess to disappointment to false predictions of results in some special instances, and until the true explanation presented itself to my mind, the matter of chemical research in soil analysis was under a cloud.

What was the explanation ? Why, simply this : the soil, although holding the substance sparsely, yet all of it was in an assimilable condition ; and as there was enough to meet the wants of a single crop, it was sought out and appropriated.

If the same crop had been repeated the succeeding year, it would have been very nearly or quite a failure. So long as chemical analysis of soils is inadequate to inform us respecting the condition, or how much of the contained plant-food is in a soluble state as required by vegetable organisms, it will be impossible to make any certain predictions regarding its immediate or remote productiveness. Analysis must not on this account be discarded as useless or unprofitable in its teaching, as by its aid a vast number of significant facts have been developed, and many positive principles deduced. A soil found to contain none of the constituents which plants require could with safety be pronounced barren ; and if there was an utter

deficiency of any one essential, like phosphoric acid, lime or potash, it could with equal safety be declared incompetent to support a certain variety of vegetation. Analysis fails to determine the positive immediate fertility of a soil, as we cannot determine how much material is in an assimilable condition. Viewing the matter as I do, it is not often necessary to resort to this expensive mode of inquiry. As will be shown, we can fertilize understandingly by chemical aids which do not pertain to the department of analysis. Chemistry not only unfolds the precise nature of soils, but also, as we have seen, the substances and principles which enter into plant structure.

The relations between the two are such, we are certain, the inorganic matter found in the latter must have existed in the former. If there were no interfering agencies beyond our guidance, the whole problem of vegetable growth would be apparently the simple one of demand and supply, and this we could control.

It is an axiom which admits of no dispute or contradiction, that all the plant consumes of a mineral character comes from the soil. Let us consider for a moment the character of some grains—*wheat*, for example.

If we make chemical examination of wheat, we find that what we are able to rub off from the kernels, after moistening, with a coarse towel, is made up of woody fibre, and differs but little from the dry straw of the plant. The next wrapper, which is a continuous one, contains the most important constituents of the seed, holding the phosphate salts, and the nitrogenous ingredients. Here is stored up the little atoms of phosphate of lime, magnesia, soda and potassa, which the microscopic mouths of the root fibres have sucked from the soil in which it grew. The office of the plant has been one simply of transference; it has transferred from the soil the earthy particles—lifted them from their low estate, to the highest within its power to attain,—placed them in position to meet the requirements of men and animals. Now, can the plant grow, and the seeds mature, unless the soil contains these salts? It may grow, and even luxuriantly; but shrivelled and imperfect seeds, few in number, will occupy the little pockets in the head, where under the nourishing influence of a properly adjusted soil, the grains

would round out with that plumpness that causeth the husbandman to rejoice.

It follows then, that phosphoric acid is needful for the proper development of wheat seeds,—and moreover, as the gluten which holds the salts is rich in nitrogen, that element is essential to its growth. These truths are a part of those which chemistry reveals to us, respecting the constitution of the wheat berry. New England soils are deficient in these elements. Lime and the phosphates were never stored up in them in abundance, and through the successive croppings carried on by our fathers, men and animals have absorbed into their bony frameworks, the little which had accumulated during the ages. The inference which seems to follow from these considerations is, that we have only to supply soil deficiencies, sow our wheat, and casting aside all doubt and anxiety, patiently await the abundant harvest.

And why should we not do this? Have we not solved all necessary problems? Have we not learned by analysis what food is wanted and have we not furnished it? Have we not learned precisely the constitution of the vegetable structure, and its seeds? Do we not understand the nature of its appetite, and how it must be fed? Certainly we do. Why then should we meet with failures? Because, we cannot bring under control all the conditions of vegetable growth. We could better command success, were there no uncontrollable influences to be taken into account. The chemist cannot order meteorological agencies. He finds in his examination of plants, that they contain an abundance of water, and he also learns, that vast quantities are constantly being exhaled during growth, and still another most important fact stands out for recognition: the food he supplies, must be soluble in water, and by its agency, voyaged through the microscopic canals to its appropriate resting place. Water, then, is needful for perfect development of plants and seeds. Heat also must be supplied. The clouds must let drop the rain, and solar rays supply the diffusive warmth, else the husbandman returns from his harvests in sorrow, and science fails to aid him. Let us not unjustly condemn its teachings, because it is unable to control the caprices of the seasons.

It is seldom however, that crops utterly fail from the withholding of heat and moisture. Our fields are lean because of starvation, because we do not supply through the soil, the food which plants require.

Chemistry teaches what had already been learned from observation and experience, that in feeding vegetable growths, the kind of aliment demanded differs in different organisms. There are certain great families of plants which have diversified appetites, and they must be gratified in their tastes or they refuse to bring forth their like. We know what they require, and we obtain hints as regards the best method of supplying their wants.

It is safe to follow the guidance of chemistry in fertilizing trees and vines. Careful examination of the wood and fruit shows what substances they most largely consume.

They differ from grains and roots not so much in the food they require, as in circumstance of condition. They are placed in the soil to remain for a series of years, and the consumption of certain elements is to be gradual but constant. Therefore it is better to supply generously the specific aliment they require, and trust to soil decomposition for those articles of which the structure needs but a trace.

About twenty months since, I prepared a grape border sufficiently large for thirty vines. It was arranged in strict accordance with the chemical structure of the vine and fruit. Lime, phosphoric acid, potash, predominate in these, therefore to meet the first want, mortar from the walls of an old building was used; for the second, well rotted bone-dust; for the third, ashes. But little animal excrement was employed, decayed sods supplying the needed humus.

Entertaining the idea that it is better not to make a homogeneous mixture of border materials, they were arranged in very thin strata or layers; first of soil, then bone, then soil with sand, then ashes, soil and sand again, then lime. The layers constituted but a mere sprinkling, and due regard was had to requisite quantities of each.

This bed was not disturbed with the shovel after it was completed. Arranged in this way, it seemed reasonable to suppose the roots would not be required to travel so far for food in the early stages of growth, and that extending as the supply failed,

they would meet with a constant supply of nourishment. A kind of vegetable instinct evidently controls the feeders to plants, and enough push out to secure each distinct element in exact proportion to its wants; and the less the distance they travel, the less the vital force consumed in urging onward the nutritious principle.

The growth of wood the first season was strong and vigorous, and that of the past summer so extraordinary, that I had the curiosity to collect the wood that pushed out and matured from single buds and weigh it, and the amount was found to be one hundred and seven pounds. Analysis of a portion of the leading shoot from one of the vines, basing the estimates upon ten grammes, the amount employed in the examination, gave as the quantity of water held in association sixty-one pounds; combustible matter, forty-four and a half; *ash*, one and a half pounds. The ash contained of potassa, twenty-nine parts in the hundred; phosphate of lime, nineteen; carbonate, thirteen; soda, three; magnesia, four, and small quantities of iron, silex, &c. The parts are given in round numbers, as for the purposes had in view scientific accuracy of statement is unnecessary. The wood, therefore, cut away at the fall pruning carried off nearly eight ounces of potash, more than five ounces of phosphate of lime, and of lime and carbonic acid nearly four ounces. The subtle chemical agencies at work in the soil to render soluble and digestible so large amounts of mineral salts, how difficult to comprehend! and then how amazing the amount of mechanical force exhibited by the vines starting from tender buds, capable of sustaining at maturity more than sixty pounds of water, and keeping it in motion through the pores.

It is fairly to be inferred from the results of this experiment that the luxuriant and healthy growth was due to the generous supply of food precisely adapted to the wants of the vine, and that the teachings of chemistry, as relating to the structure and appetite of vines, are worthy of regard.

What course is obviously to be taken when from repeated croppings the grape clusters fail to appear? Shall we tear up our vines, as do many, and entirely remove the contents of the border as waste matter, and at much expense form a new one? Drenching with farm-yard manure from year to year has failed to restore to full fruitfulness; and why? Because it does not



furnish in sufficient abundance the *one*, or, perhaps, *two* substances which are imperatively demanded. Contemplate for a moment the very large amount of *potash* stored up in the vines and fruit, greater even in the latter than the former, and is there not palpable significance in this fact which chemistry unfolds?

Unleached ashes, applied in generous quantity to old grape-borders, will usually restore them to full fruitfulness, and render removal unnecessary. If they falter after the application, add finely ground bones, and the work is done. The other agents needed are usually present in the border in sufficient quantity to meet all requirements, and it is only necessary to add those which have been removed by absorption to effect complete restoration.

If we can be as safely guided by the teachings of chemistry in the cultivation of the three great families of plants upon which agricultural industry is most exercised, the cereals, leguminous plants and roots, we shall be directed by a light which will lead us out of all errors and all difficulties.

A recent English writer, in speaking of the results of the labors of Professor Ville, of the imperial farm at Vincennes, in the exuberance of his enthusiasm, exclaims, "There is nothing extravagant in stating that light has replaced darkness, that order has succeeded to chaos, and that the phantom of sterility is laid." Without sharing in such positive convictions in regard to the labors of the French experimenter, it is impossible to doubt or question the importance of his investigations. Indeed, in their general character, they can hardly be regarded as very new or novel, but they strike a death-blow at one delusion, which, like a spectre, has haunted chemists in their teachings upon agricultural questions for many years.

This relates to the empirical, indiscriminate application of single fertilizing substances to soils without any definite object in view. Perhaps the term "running for luck" will express the idea. The teachings of Sir Humphrey Davy, Liebig, Johnstone, Way, and many others, it must be confessed, have led in this direction, and thus established the uncertainty which invests such experimenting. The literature of agriculture is almost corrupted by disquisitions upon, and recommendations of, various salts or substances, as being the long sought-for elixir

vitæ, the great specific, which is to retrieve all lands from barrenness.

No fact is more apparent than that no such specific exists. The recommendations of salt, lime, iron, nitre, ammoniacal salts, and a dozen other specifics, in our numerous excellent and useful agricultural papers, cannot be regarded as beneficial to agriculture. It is quite natural for a soil cultivator, when, in the course of a series of experiments, he hits upon an article peculiarly adapted to the condition of his soil, to desire to communicate to others a knowledge of what has been so beneficial to him. The motives are honorable and praiseworthy, but he may thereby lead a neighbor into trying an experiment which ends in utter failure; and not only this, may do harm, by creating prejudice against that which, under a change of circumstances, might prove exceedingly useful. It will be understood that these remarks are made against the empirical use of single fertilizing substances. If any one has time, and inclines to experiment for his amusement, no harm can result, provided it be understood that the field of knowledge cannot be greatly extended by such labors, and that no observed beneficial results are of much use, except to the experimenter.

Perhaps gypsum may form an exception to these remarks. Because of its peculiarly isolated character, and of the uncertainty of its mode of fertilization, it must continue to be employed empirically until it is better understood. Gypsum has been the great stumbling-block in the way of chemists, and the question of its method of imparting fructifying influences to plants is still an unsettled one. The facetious author of a popular book upon husbandry remarks: "There has as yet been found no law by which to govern its application. On one field it succeeds; on another, to all appearances precisely the same, it fails. At one time it would seem as if its efficacy depended upon showers following closely upon its application; in other seasons showers lose their effect. In one locality a few bushels to the acre work strange improvements, and in another *fifty* bushels work no change whatever. Now it is a hill pasture that delights in it, and again it is an alluvial meadow."

Liebig, after having advanced a very decided hypothesis regarding its mode of action, has in his more recent work, "The

Natural Laws of Husbandry," abandoned it, and stated that "the whole matter is still involved in doubt."

It may not be worth while to add another theory to the many already advanced, but I cannot well help saying, that experiment and observation lead to the conclusion, that to neither the salt in itself, or to the separated lime or acid, is its fertilizing influence wholly or uniformly due. Its effects are nitrogenous in some cases. It is capable of furnishing nitrogen to plants, through the agency of an ammoniacal salt, resulting from its soil decomposition.

My attention was drawn to the salt accidentally, by observing a strong smell of sulph-hydric acid, in a mass, at the door of a plaster-mill. This had been trodden upon constantly, and water and mud containing organic matter was solidly impacted with it. Upon examination of a heap in the mill, I found that masses, lying against wet timbers, evolved the same odor. This led to experiment, and it was proved that gypsum in the presence of organic matter, is readily deprived of its oxygen, and converted into sulphide of calcium.

It was further proved, that this salt is capable of absorbing ammonia from the air, and from decomposing vegetable matter, and being thereby changed into hydro-sulphide of ammonia; and this again may be changed into carbonate of ammonia by absorption of carbonic acid from the air. These are some of the changes which sulphate of lime is proved capable of undergoing. But this is not the time or place, to protract the discussion. It seems to me probable, that the different theorists, may be partly right and partly wrong; in short, that the salt is capable of exerting specific influence in several ways, according to the conditions under which it is acted upon. It may furnish nitrogen, or lime, or sulphur, or it may act on some soils physically, and not chemically, by absorption of moisture. If these views are correct, they may account for the doubt and confusion under which the question rests.

In all experiments with gypsum which have passed under my observation, the lands or soils, upon which its best effects are observed, are hilly pastures, with a northern aspect and a moist, moss-covered soil. Mossy meadows are greatly improved under its use.

The theory adopted is, that there must be organic matter in a moist condition, with ready access of air, in order to carry out those changes which have been alluded to. But I do not speak authoritatively upon this point. The gentlemen whom I address, have a much more extended experience, perhaps, to guide them.

After what has been said regarding the employment of specific fertilizers, it is probable, gentlemen, that you will have anticipated the recommendation that I have to make, and that is, always to *compost* or *compound* elements of nutrition designed for plants, until a system is established, which will enable us to use single substances understandingly. Chemistry in its application to agriculture, has certainly made advances, inasmuch as it is now capable of demonstrating the correctness of two important propositions: first, that each field has its own peculiar wants; second, that each plant has its own peculiar appetite. It has further established its claims to respect and confidence, by showing that meteorological influences being favorable, we can supply requisite food in the proper quantity and condition, to secure the largest crops, with a great degree of certainty.

The system of Professor Ville already referred to, embraces this idea. He proposes the use of what he denominates a *perfect manure*, that is, one made up of nitrogen, phosphoric acid, lime and potassa. This, when made up and applied in proper quantities, he shows is capable immediately of changing a barren siliceous soil into one of perfect fertility.

I am willing to accept these results in general as in accordance with my own experimental observations during the past three years, or rather I yield assent to the correctness of the principle of producing and applying *perfect manures*. It is noticeable that magnesia is omitted as an element in his manure, par excellence. As we have before stated, there is present in most soils, or there is constantly being formed by decomposition, the minor substances like iron, manganese, chlorine, &c., sufficient for the wants of vegetable organisms, but magnesia cannot be classed with them, as a glance at the composition of some important grains will show.

The ash of wheat affords 12 per cent., or 12 ounces in one hundred; the straw more than 8 per cent.; barley, 7; oats, 10; rye, 10; corn, 8; turnips, 2. These quantities

are large, and in the case of wheat grain come next to lime, forming one-eighth of the whole amount of ash.

In countries where magnesian limestone abounds, the supply may be fully afforded by the soil. In France, Germany and England this is probably the case; but in New England we cannot form a perfect manure and overlook the magnesian salts. In all the treatises and statements respecting fertilizing agents made by our chemists and experimenters, we find scarcely any allusions to the importance of the magnesian element, and this is indeed a matter of surprise.

It probably arises from the practice of copying the results of European writers—not from the deductions of original and independent research. Our soils are not constituted like those of Europe, and in the application of fertilizing principles they require different treatment. A perfect manure, then, adapted to our soils, should contain nitrogen, phosphoric acid, lime, potassa and magnesia.

For the cereals, excess of nitrogen is demanded; for leguminous plants, as pease, beans, &c., potassa; for roots or tubers, phosphates. *All* demand lime and magnesia, and these must be supplied in the perfect food made ready for the plant-children of our fields.

Three questions remain to be answered: First, how shall we properly prepare these elements of nutrition? Second, how shall we apply them? Third, where can we obtain them? Chemistry is fully capable of answering the first. Apply all substances to the soil in the finest state of comminution; bring everything into a condition resembling as nearly as possible the excrementitious products of animals, which is the true condition. The bone for phosphoric acid must be reduced to an impalpable powder, and this is not its best form; it is better to dissolve it in acids or caustic alkalies, whose teeth are sharper than burr-mills or any mechanical levigators.

The *potash* must be in combination with carbonic acid, or in the form of carbonate of potassa. This is the most easily assimilable form, but in the caustic condition, as in ashes, it is readily changed to carbonate by contact with air.

The *nitrogen* must be furnished through ammonical compounds, or nitric acid salts. Lime in form of phosphate, hydrate or carbonate, may be employed, and the sulphate of magnesia

furnishes the magnesian element in the cheapest, and a sufficiently eligible form. How shall we apply them? This can be understood with a full knowledge of what end is had in view, or what special want is to be supplied. There can be no success under the ordinary conditions in which our agricultural labors are performed, unless an intelligent system is adopted and pursued persistently from one year to another.

It is not necessary that farmers should be practical chemists, to be successful in the employment of fertilizing agencies. A few simple principles, furnished by chemistry, if well understood and earnestly adopted, will enable any one to appropriate to his benefit all the important facts unfolded by science, in respect to manurial applications. In treating a worn-out soil, a combination of all the elements needed for the three great families of plants, should be employed; and if wheat or corn is to be cultivated, fields so prepared will yield a maximum return the first year. The second year, add the proper quantity of that which these grains demand in largest abundance, or which they abstracted from the soil the first year. These will be the *nitrogen* and *phosphate of lime*. If roots have been cultivated, the *phosphates* alone will be needed—if some member of the pod-bearing or leguminous family, potash. The three varieties of plants may be followed in rotation, with success, when by experiment the plan is clearly understood.

The great, prominent idea is, to maintain in the soil all the elements that plants require, and in sufficient abundance. If a particular crop removes a specific agent, supply it. Barn-yard manure furnishes all; and yet, the same intelligence is to be employed in its use, and the equilibrium of elements must be maintained between it and crops. We know what, and how much corn requires; we know how much good manure is capable of furnishing. A fundamental point in good farming is, to secure every ounce of this possible. It is an absurd notion, however, to suppose we can artificially produce it, by ill-adjusted mixtures of turf, sods, chaff and rubbish. We can easily form a huge and dark heap, but if the salts be absent, which almost alone give value, it is hardly worth the labor it costs.

But the supply of barn-yard manure is not and cannot be adequate to our wants, and this brings us to the third question. I wish I could furnish an answer more satisfactory to you,



gentlemen, and to myself, than is allowed me. If it was not for the important matter of *cost* or value in known agents, which must always be balanced against the value of products, I could more satisfactorily answer.

At present, bones furnish the cheapest, in fact the only supplies of phosphoric acid,—ashes of potassa—ammoniacal salts, or nitrate of soda of nitrogen. In this country, prices of each of these are not yet so great as to place them beyond profitable employment; but unless the price of farm products continues to advance, in a direct ratio with the rise of the agents, the time will come when their use must be relinquished. Chemists are hard at work upon some problems of great moment to the agricultural interests. These relate to the isolation of those principles of fertility which are locked up in the stony framework of our globe. Here we have reasonable grounds for expectation and hope; millions of pounds of potassa are reposing in felspathic rocks, and it cannot be long before they will be forced by chemical agents, to relinquish their rich hoards of alkali. In the apatite and phosphorite minerals which abound so extensively in New York and New Jersey, we have abundant supplies of phosphoric acid and lime, and to them must we look for future wants.

There is not a single vegetable in the field or wood that does not contain in the ash potash, in some form of combination, and not a plant can be found upon our globe from which the phosphates are absent; therefore we must have full supplies of these indispensable agents.

We live in an ocean of gaseous matter made up of oxygen and nitrogen; seventy-nine pounds of the latter is contained in each one hundred of the mixture. Ready at hand then is this element, but unfortunately most plants are incapable of absorbing it in its free condition. Experiments have been made in France, which give promise of a supply of the ammoniacal salts, the nitrogen of which is derived from the atmosphere direct. If these chemical labors prove successful, we can understand through what source supplies of nitrogen may be afforded. Lime and magnesia are abundant everywhere, and these complete the list of important substances needed to render our fields inexhaustibly fertile.

We can hardly doubt as regards the abundant resources of nature, or cherish a hesitating faith in respect to a future supply of all our wants in feeding the plant-children of our fields. Our mother earth holds within her bosom all the various materials needed for the preservation and well-being of her children. When the woodman's axe ruthlessly stripped her of her rich vestments of umbrageous forests, and by so doing, awakened apprehensions as regards the supply of materials needed to furnish household warmth, we were directed to the outcroppings of black carbon in our immense coal-fields; and when the Nantucket and New Bedford whalers returned to their wharves, with the alarming announcement of the partial or complete failure of the ocean harvests of oil, the little rivulets of petroleum which oozed from the rocks in Pennsylvania were sounded to their depths, and forthwith the oil spouted forth in such quantities, as taxed all our energies to secure. Let us look forward then with confidence, and trust to the future, and feel assured that chemistry, which holds the key which has unlocked so many rich chambers in the storehouse of nature, will open others fully capable of supplying all the wants of the husbandman.

On motion of Mr. JOHNSON, of Framingham, it was

*Voted*, That the thanks of the Board be tendered to Dr. Nichols, for his very able and instructive lecture.

The Board then, on motion of Mr. BULL, adjourned without day.

#### ANNUAL MEETING IN BOSTON.

The Board met at the office of the Secretary, on Thursday, January 31st, at 12 o'clock.

In the absence of His Excellency, Mr. DAVIS, of Plymouth, was requested to preside, and accordingly took the chair.

After the records had been read and approved, attention was called to the Act of 1866 in relation to Agricultural Societies, and the fact that the society at Blandford had elected a member of the Board, having made a return in manuscript, which was supposed to be a compliance with the law. It was

*Voted*, To refer the returns of the society to a committee to consider whether it can be regarded as coming within the terms of the law, and report thereon to the Board.

The committee was constituted by the appointment of Messrs. Bull, Loring and Saltonstall.

This committee subsequently presented the following

REPORT:

The Committee to which was referred the application of the Blandford Society for representation on this Board, under the the Act of 1866, report that the society have not complied with the terms of the Act by publishing their Transactions, and are not entitled to a delegate.

(Signed,)

For the Committee,

E. W. BULL, *Chairman.*

Attention was also called by the Secretary to the mode of making returns on the part of some of the societies, when a motion was made that the Secretary be directed to notify all the societies that their returns will hereafter be required to be printed in pamphlet form, and to be filed with the Secretary on or before January 15th of each year. The subject, after some discussion, was referred to a committee of three, consisting of Messrs. Moore, Hubbard and Ward.

This committee, after full consideration, subsequently submitted the following vote, which was unanimously adopted:—

*Voted*, That the Secretary of this Board be requested to notify all the societies receiving the bounty of the State, that hereafter, in addition to the financial returns now required by law to be made on or before the tenth day of December of each year, they will be required to return a full and complete report of their doings, printed in pamphlet form, on or before the fifteenth day of January following.

And that the Secretary will not be authorized to certify to the Legislature, or to the State auditor, that a society has complied with the law, and is entitled to its bounty, unless it has conformed to this requirement.

Delegates appointed to visit the various exhibitions submitted reports as follows:—Mr. Clement on the Middlesex South; Mr. Thompson on the Worcester; Mr. Billings on the Worcester West; Mr. Slade on the Hampshire, Hampden and Franklin; Mr. Ward on the Hampshire; Mr. Sanderson on the Hampden East; Mr. Homer on the Plymouth; Mr. Smith on the Hoosac

Valley; Mr. Huntington on the Barnstable; Mr. Perkins on the Martha's Vineyard; all of which were severally read and accepted.

FRIDAY, February 1.

The Board met at 10 o'clock, A. M., Mr. Davis in the chair. Reports of delegates were presented and accepted by Mr. Hubbard on the Franklin Society; by Mr. Watkins on the Worcester North; by Mr. Chadbourne on the Norfolk; by Mr. Sewall on the Worcester South-East; by Mr. Johnson, of Framingham, on the Essex; by Mr. Saltonstall on the Berkshire.

An Essay was presented on the

### CULTURE OF CHICCORY.

BY PROF. F. A. CHADBOURNE.

It would seem to be poor policy for the Board to appoint members to perform work for which they are entirely unprepared, and unable, for want of the proper means, to prepare themselves. I have long known chiccory botanically, and have been lead to fear it as a troublesome weed. But it has only recently begun to spread in my neighborhood, so that I have had little chance to personally observe its value for any purpose, or to see any injurious result from it as yet. What I say must be credited mainly to books, and not to myself.

The Chiccory (*Cichorium Intybus* L.) is a strongly marked plant, belonging to the natural order *Compositæ*, nearly allied to the lettuce, dandelion, and other well known plants of that order, both cultivated and wild. It has a branching stem adorned with very showy flowers, generally of a deep blue, though white flowers are sometimes found. It has a deep, perennial root, which now seems to be the chief object in cultivating the plant. Chiccory is described by Parkinson, who wrote more than two hundred years ago, and ascribed to it the medicinal virtues which the United States Dispensatory now mentions as perhaps belonging to it; though the Dispensatory does not admit it among the recognized remedies, but puts it among those substances that once having some reputation, are now considered worthy only of a place in the appendix and small type in that excellent work. It is reckoned as a tonic, very mild in its action, and so, probably, not very injurious as a substitute for coffee, which is its great use. More than a

century ago the manufacture of coffee from the roasted root of the chiccory was practiced in Holland. It long remained a secret there, but now seems to be known almost the world over, as every lover of coffee can testify, who has learned the peculiar bitter, puckery taste of this root. To some it becomes so agreeable that coffee without it tastes weak and insipid. It is related of one coffee-dealer in London, who conscientiously gave up the sale of coffee adulterated with chiccory, that he found his customers all leaving him when he gave them nothing but the pure article, and he was compelled to commence anew the old fraud to regain his customers and his name as an honest man.

It was estimated in 1850 that 12,000,000 pounds were consumed in France, and large quantities exported. 12,500 tons were raised in England, besides the quantities imported from Ireland and the continent. That large quantities are consumed in this country, we know; how large, I have no means of determining. To develop a good root, the chiccory requires a deep, good soil, well prepared. It seems to thrive best on calcareous locations. It is sown in May, and harvested in October. The leaves form a good fodder, but impart an unpleasant flavor to the milk.

The roots may be dug with a spade, piled in heaps, and protected from frost till ready for use. They are generally cut into strips and dried in a furnace, when they are fit for market. They are afterwards burned, ground and sifted, and then some Indian red or other coloring matter added to give the substance the appearance of coffee. It is sometimes used alone for coffee, but generally as an adulteration. A good recipe, as given in the proceedings of the American Pharmaceutical Society, in the article on "Adulteration," is,—for prime old Java, 60 pounds of pease, 20 pounds of chiccory and 20 pounds of coffee. The chiccory itself is subjected to extensive adulterations,—roasted bread, acorns, corn, beans, beets, carrots,—almost everything that can be roasted and ground being added, and Indian red and brick-dust being put in to give the proper color. Chiccory seems to have but little active principle, but its color and bitter taste amuses people with the semblance of coffee. Probably nine-tenths of all that is sold to the consumer is a cheat, being sold as an adulteration.

The seeds of the plant, like those of most of the compositæ are easily distributed, and as it is a perennial and vigorous grower, throwing out branches when the main stalk is cut off, it follows almost necessarily, that wherever it is cultivated it will become naturalized in waste places. It is spoken of by De Candolle, as being found by the roadsides and in the fields in almost all parts of Europe. Such an easily spreading plant should have unexceptionable qualities to justify its cultivation. We have seen enough of chicory already to see that it may become a nuisance; we see no good qualities in it either for man or beast, that are sufficient to encourage its cultivation.

This Essay was read and laid upon the table, under the rules, but subsequently taken up and accepted.

An Essay was submitted on

#### THE MANAGEMENT OF AGRICULTURAL FAIRS.

BY J. M. SMITH.

On the 20th of July, 1794, Washington, then President of the United States, addressed a letter to Sir John Sinclair, in which he says: "It will be some time, I fear, before an agricultural society, with congressional aid, will be established in this country."

Again, in his annual address, on the 7th of December, 1796, when he met for the last time the two houses of Congress, he said: "It will not be doubted, that in reference to individual or national welfare, agriculture is of primary importance."

Thus it is seen that he who is called the "father of his country" was strongly impressed with the importance of forming agricultural societies, and that they should be assisted by the general government, that they might be the means of diffusing information—of creating and encouraging a spirit of experiment and improvement.

Some few individuals, even before this date, had felt the necessity for some action that would lead to the development of the agricultural resources of the country, and, as the result, the South Carolina Agricultural Society had been established in 1784.

The Philadelphia Society for the Improvement of Agriculture was formed the same year, followed by a similar association in New York, in 1791, which was incorporated in 1793.



The Massachusetts Society for Promoting Agriculture was incorporated in 1792, but owing to the fact that the mass of farmers were not prepared for any progressive effort, and were prejudiced against what might be called "book farming," they did not hold any public exhibition till 1816.

The first agricultural exhibition, ever held in this country, was held in Georgetown, D. C., on the 10th of May, 1810. The society was organized in Georgetown, on the 28th of November, 1809.

The first county exhibitions held in this country, are believed to have been those of the Berkshire County Agricultural Society, whose first "cattle show" consisted of the exhibition of three merino sheep, by a private individual, under the great elm tree in Pittsfield, in the year of 1810.

The Berkshire Society was incorporated in the winter of 1810-11. Although the first exhibition was held in Berkshire County, there had been agricultural societies formed previously. The Kennebeck Agricultural Society was instituted at Augusta, Maine, which was then a part of Massachusetts, in 1800, and incorporated in 1801. An association was formed in Middlesex County in 1794, and incorporated in 1803.

From this era agricultural societies and fairs have multiplied throughout the United States. State agricultural societies have been formed in almost every State, and county societies in almost every county in the Union.

There have been several attempts to establish a National Agricultural Society. In 1840 several gentlemen, with Solon Robinson, Esq., at their head, organized the "United States Agricultural Society," but being somewhat disappointed in not securing the donation which was afterwards given to establish the Smithsonian Institution, they never held a meeting after its organization.

In 1852, a convention was held at the Smithsonian Institute, composed of one hundred and fifty-three delegates, representing the principal agricultural societies in twenty-three of the States and Territories. Annual exhibitions have been held in several of the States, and there is no doubt but that they have increased the efficiency of the State and local associations, and elevated the standard of excellence of agricultural systems and productions.

The interest of agriculture demands, and it is of so much importance, that it should receive, liberal governmental aid. Figures tell us that agriculture is the leading interest in the country; that forty-five per cent. of our population are engaged in agricultural pursuits,—more than one-half larger than those who are engaged in manufactures and the leading trades, more than four times larger than those engaged in merchandise, and nearly ten times larger than those in the professions.

And our government is doing many things for our whole country. There has never been a time when our National and State governments were doing so much for American farmers as at the present day. And although we cannot see what will be the ultimate effect of this aid upon our agriculture, still there can be no doubt but that a glorious success is reserved for the future.

One of the objects our government has in view, is the elevation of the characters of American farmers as tillers of the soil which they cultivate. The mind must be enlightened in the knowledge of science and arts, before we can proceed a step in any improvement. For this purpose the government has been expending sums of money in collecting reliable information, and in diffusing it among the working farmers of the land.

Statistics show that our soil does not produce from year to year one-half the amount of grass, hay and grain that it is capable of producing under scientific cultivation. And many of our farmers are opening their eyes to this important consideration, and are commencing different systems of agriculture, that they may, by judicious management, raise two tons of hay with less expense than they used to produce one ton. They find that there is an inexhaustible resource of fertility in the soil beneath, and in the air; and that in husbanding these resources, and by taking proper care of the elements of fertility, the soil may be made more productive.

Massachusetts, ever ready to lend her hand to assist in every laudable enterprise, has shown a disposition to encourage every branch of industry,—to open her purse for the literary and agricultural education of all her citizens. By her bounty to the county societies we are encouraged, and the cause of agriculture promoted. In 1838 the legislature of the Commonwealth passed an "Act to encourage the production of Wheat."

At a later date, "An Act to encourage the production of Silk." In 1852 the State Board of Agriculture was established, which now consists of the governor, lieutenant-governor, secretary of state and the president of the Massachusetts Agricultural College, who are members *ex-officio*, and also one member chosen by each of the agricultural societies in the Commonwealth receiving State bounty, and three members who are appointed by the governor and council; in all thirty-three members besides their Secretary.

Our agricultural societies are doing much to elevate the system of agriculture. The annual gatherings of farmers, when their choicest animals are brought together for the inspection of brother farmers, tends to make the annual cattle show the most improving of any day of the year. Farmers learn by sight and comparison. Many a farmer, after attending one of these autumnal exhibitions, has been led to make new resolves, to turn over new leaves, to exert himself, that he may compete with his neighbors in rendering the show more attractive, and thereby he himself is elevated; he is induced to think and investigate, and instead of a mere machine he becomes a reasoning being, and capable of giving information to others.

How our agricultural fairs may be conducted so as to render them of the greatest practical benefit to those for whom they are instituted, is a subject which may well engross our attention. In this State there are twenty-five incorporated societies which hold annual fairs, and in each nearly the same routine is gone through with, differing, of course, as customs and habits in one section of the State may differ from those of another. The most of these societies are the owners of a tract of ground, which is enclosed by a high and tight board-fence. The exhibition is made of all kinds of farm-stock and of agricultural implements. A hall, set apart for the purpose, is filled with grains, seeds, vegetables, fruits, field products, mechanic and the fancy arts, both ornamental and useful, and every variety of manufacture, which is the product of home industry. It is customary, also, to invite some distinguished learned gentleman from abroad to give an address upon some agricultural subject.

Now this is all very well, and is the source of profit to a large class of the agricultural community. Farmers, as a class, do not have holidays enough; do not spend time enough in relaxa-

tion, in going about from place to place endeavoring to acquaint themselves with what is transpiring around them; in gaining new ideas and facts respecting their own occupation.

Professor Agassiz tells us that literary institutions should be continually endeavoring to raise their standard of education, and why should not this apply equally well to agricultural schools, societies and fairs? What new plans shall we adopt,—what changes can be made,—what series of experiments can be instituted that facts may be ascertained, statements and theories proved to be either correct or false?

In order to awaken a new interest, we need to make some changes in the programme for the fair days. It has been recommended, and it seems to be desirable, that stock which is brought for exhibition should remain on the ground during the whole time of the show. It is well known that there are objections to this course; but if some way could be adopted by which it could be brought about, it would no doubt prove beneficial.

Every agricultural society should hold meetings for discussion in connection with their fairs. It is by the interchange of sentiments, the exchange of ideas, that we derive useful knowledge. Almost every farmer will have acquired some facts that will be new to others.

Some societies have offered premiums for reports made by committees, that these reports may appear in the society's published Transactions. This is very much to be commended, for every society should publish the report of their doings in a pamphlet form; and it is to be hoped that this Board will recommend to the legislature to pass a law making it obligatory upon all societies to do this, and in case of non-compliance shall subject them to the forfeiture of their State bounty.

The secretaries of each society should be required to furnish a full printed report of their doings, in accordance with the law, as found in the General Statutes, chapter 66, section 5.

Our State gives the annual bounty for the promotion of agricultural improvements, and for our advancement in the knowledge and science of agriculture; and how shall we become acquainted with whatever knowledge others have acquired, if we are not informed of it by the means of the press?

Your Secretary collects, or would collect, from these printed reports all valuable matter to be placed in his Annual Report, which is published at the expense of the State and sent out to the world.

Some societies in our State have adopted the plan of giving the premium in its value in silver plate, which I think is worthy to be adopted by all our societies. However large or small these premiums may be, by this mode every family will have a memento, which, by its daily use, and by its having the name of the donor inscribed thereon, is continually reminded of the giver, and the object of its existence.

In most cases when a small premium is awarded, the money received soon passes out of sight and of mind, with no permanent benefit to the recipient. Again, in many instances a premium is awarded to an individual who cares nothing for its value only as it tells that he received a high premium. And in such instances would not a diploma better accomplish the results desired?

There is one point in the management of fairs that has not received the attention which its importance demands. Instead of the principal attention of those attending the fairs being given to that portion of the show grounds devoted to stock, as cattle, sheep, &c., and to the exhibition of agricultural implements, there is a tendency to allow the exhibition of the horse, in what is called a "horse-trot," to absorb the whole interest, not only of the people, but of the managers and officers of the society. The practice of paying the largest premiums for purposes not calculated to promote their interest, has a tendency to prevent some good farmers from attending the fairs. The practice of giving the highest premium, not to the animal which is calculated to be of the greatest benefit to the farmer, but to those that are kept exclusively for show, will not promote their best interest.

But say the advocates of such performances, "something must be done to draw a crowd." Draw a crowd! Suppose a crowd was not drawn? If an enlightened people who are interested in the highest success of agricultural employment are not interested enough in the exhibition of the best of those animals which the county can furnish, which are not only useful but entirely essential to successful farming operations, to go and see

them without being called together by some outside influences, let them stay away.

Is it not a serious question for the consideration of all officers of agricultural societies, whether they are justified in providing for, and promoting, all such performances? Whether they will be justified in spending not only money, but time, to so little public advantage. Mr. Sanford Howard, of the Michigan Agricultural College, in an address delivered by him a short time since, remarked upon the position the horse should take in our agricultural shows, as follows :

“ Is any real improvement effected, or even contemplated by these premiums on trials of speed? It has already been remarked that premiums have been offered for the fastest trotting at short distances; only light weights are drawn; so that the contest is reduced to a mere test of speed, wholly irrespective of other properties.

“ It follows, of course, that the winning horse is in many cases, not one of any value for any purposes of usefulness: That in some instances he will not bring so much in market as is awarded to him in premium.

“ It is true this is not always the result of these trials. Horses that are valuable for something besides speed for short distances, with light weights, do sometimes win; but when they do, they stand no higher in the scale of honor, than the scrub, that has done the same thing. And it must be evident that the offering of premiums for mere speed, if it has any influence at all, tends to the production of horses in which the more useful properties are found in an inferior degree.

“ But perhaps it would be asked, would you shut out the horse from any participation in agricultural exhibitions? Certainly not! The horse is one of the most useful of our domestic animals, and his improvement should not be overlooked by agricultural societies. \* \* \*

“ If it should be desired to test the rate of speed by time, the fairest way to do it would be to try each horse by himself in a most quiet way. Where horses are put upon the track in competition with each other, it is difficult, and in some cases impracticable, to settle the question of the rate of speed, of which they are relatively capable, on account of the excitement which effects them.



"The 'green horse' of the rural districts, unaccustomed to the strange sights and sounds of such an occasion, cannot act naturally, and stands no chance with the trained nag of perhaps much less power of speed.

"Most persons who have witnessed such contests, must have proof that the race is not always to the swift,—that the tricks of jockeys, have more to do with the result than the speed of the animals. Often has the writer heard the remark, when thousands were watching the result, with breathless anxiety, 'That the drivers knew before starting which horse was to be the winning one.'"

Again, the editor of the "Canada Farmer," who attended the exhibition of the New England Agricultural Society, held at Concord, N. H., in 1865, remarks in his paper upon the corruption of agricultural fairs as follows:

"The display of horses is a fine one, and forms, perhaps, the leading feature of the exhibition. It is rather extraordinary that this should be so, just after a four years' war, which has been supposed to have drained the country of good horses.

"The arrangement and order of the show left nothing to be desired. Provisions were amply supplied at booths and tents on the grounds. No intoxicating drinks were permitted within the precincts, and not an instance of inebriety met our notice.

"We were surprised, however, to find that whirley-go-rounds, and side shows, of bears, snakes, war scenes, fat women and skeleton men, were admitted within the enclosure. Still greater was our astonishment to find that horse-racing formed a most prominent feature in the proceedings, as conducted by the agricultural society.

"There was a trot each day, and purses to the amount of \$1,000, were offered by the society out of its funds. The excuse for this is, that the people will not come out in sufficient numbers to pay expenses, unless racing is provided for."

The same editor says further: "Who would have thought this in sober New England, the land of steady habits. Without at all touching the morality of horse-racing, we cannot help thinking that it is wholly out of place at an agricultural exhibition, and if our New England friends are at all inquisitive as to how it 'strikes a stranger,' they are welcome to our unqualified

condemnation of the thing. And we cannot help thinking that in various ways, the horse-racing must in a long run, operate unfavorably upon the interests of the agricultural society."

And, gentlemen, if this is the way that our agricultural fairs 'strike a stranger,' and a foreigner, I ask again, if it is not a serious question for the consideration of all the officers of our agricultural societies, whether they are justified in providing for, and promoting such performances.

And is it not about time when all societies who are receiving State patronage should be made to run without the aid of fat women, distorted men, gambling tables and horse-racing? When all gates are taken away, the exhibition made open to the competition of the whole State or county, and free to the whole world?

I ask if the time has not come when this step should be taken, as one of the means for the elevation of the standard and character of our agricultural societies? If our societies cannot be sustained without mixing up public demoralizers, in the shape of gambling establishments and shows of a low character, whereby the evil influence which it has upon a community, and especially upon the rising generation, is greater than the benefit derived, then let them go down.

Better by far would it be for our State to give to each society twice the sum she now gives, than that debasing influences be resorted to to fill up treasuries; for no amount of prosperity can compensate for the loss of public morals.

Better by far would it be if the amount now given to the societies be given to one-half their number, and the other half suffered to die out, than that our young men be educated for horse-racers, drunkards and gamblers!

But our State and county fairs may be made useful. They have contributed to the progress of agricultural improvement throughout the country. Thousands have visited them and have seen specimens of this progress. They have learned that their own animals, which they supposed could not be beaten in the whole world, are left quite in the shade by many which they find at the shows.

The improvements which have been made in everything connected with farming operations can be plainly seen in every agricultural community. A better character of farming is

maintained—more thrift and profit. Buildings and fences are repaired, or new ones, built on improved plans, are put in their places; hedges and fence corners are cleared up, and crops yield more per acre. Stock of all kinds is improved; new and pure bloods are introduced; emulation and enterprise are excited, and improvement takes place.

A great change has been made in agricultural implements within a few years. Manufacturers have made use of fairs to advertise their wares, by which means they have been brought under the immediate notice of the farmer, who has commented upon their excellences and imperfections, and improvements suggested, of which the maker has taken advantage. These are some of the benefits which have followed, as the result, either directly or indirectly, of agricultural fairs.

But a great burden of responsibility rests upon the officers and managers of these societies to make these fairs what they ought to be. The right men should be selected for office—men who have strong sympathy with the farming interests, and men who are willing to promote them by attention to the duties of their office.

It is no sinecure to manage the details of a fair; and a man who loves honor, and does not love work, should never accept office in an agricultural society. The committees, especially, should be men acquainted with their respective duties. But a successful fair demands something more than a judicious selection of committees. They must attend to their duties.

But it is out of the power of any board of managers, to make a fair a success, without the co-operation of the people. There should be a hearty, healthy interest in the mind of every farmer in the county, for the successful carrying out of everything which is for the interest of his county society.

Every farmer should take pride in it, and use it as an instrumentality made by him for his own benefit, and should go to its business meeting, with the full resolve to do all that in him lies for its prosperity; that it may be made a power to be felt throughout the county, in the improvement of husbandry, and a direct instrumentality to benefit each, by the influence which it exerts on all.

J. M. SMITH.

THOMAS BILLINGS.

N. S. HUBBARD.

SATURDAY, February 12.

The Board met at 10 o'clock, A. M.

Colonel WARD, of Shrewsbury, was requested to preside, and accordingly took the chair.

An Essay was presented upon

#### PLANTS AS AN INDICATION OF THE NATURE OF THE SOIL.

BY LEVI STOCKBRIDGE.

An agricultural writer of the last century, says: "That all kinds of vegetables are continually varying in their growth, quality, production, and time of maturity, and he believes the great author of nature has so constructed that wonderful machine (the plant,) as to incline every kind of soil and climate, to naturalize all kinds of vegetables it will produce, at any rate the better to suit them, if the farmer will do his part in selecting the most proper seed." Practical experience proves the truth of this quotation. Plants like men, become naturalized to, multiply and thrive in a soil and climate, remote from, and essentially different from that of their origin. Wheat, a plant of Asiatic origin, has extended its field of growth throughout the temperate zone, and into the borders of the frigid and torrid. It flourishes alike in all Northern Africa, and in the frozen regions and short summers of Norway and Labrador, the steppes of Siberia, and the hills of New England and the Middle States, and the prairies of the West. The same is true of the rye plant; and the potato, native in the mountains of South America, has made for itself, or found a genial soil and climate, in nearly all countries as far north as sixty degrees of latitude. The oaks of England, the larches of Scotland, and the maize of North America, take kindly to opposite continents, and thrive in a soil and climate unlike that of their nativity.

Our forests are a mixture of all the trees of the temperate zone. We find the different kinds of pine, oak, birch, the chestnut, maple, hemlock, elm, and many others in contiguity and often on the same acre, and all showing a growth neither sickly nor scant, and this on soils of varying characteristics and geological formations. The same soil that produces fine, perfect wheat, bears luxuriant crops of tobacco; the same brings forth the skunk cabbage and flowers of rare beauty and delicious

fragrance. These facts, potent and indisputable, and so apparently at variance with the teachings of science, that different plants require different food for nourishment, and are adapted to certain soils, is partially accounted for when we come to consider, in the first place, the manner in which all of our soils have been formed and deposited, and the surface changes they have since undergone. Their origin was the solid rocks of the globe, which by abrasion and disintegration, by the action of heat and cold, of air and water, have been broken down and ground to powder of a greater or less degree of fineness. Each rock of distinct geological formation, produces a homogeneous soil of its own essential characteristics, and fixed adaptation for the growth of plants requiring support by its peculiar mineral constituents. But the great water currents of different periods, in the same and in opposite directions, and the constant washings and depositions of rains and springs, have often commingled these distinct soils, and given them a heterogeneous character; and if instances are found where distinctive quality is left, they are deposited at a distance from the place of their nativity, except in a limited degree in the lime and sandstone formations. Thus plants created for very different purposes, of varied construction and characteristics, and requiring essentially different food for their perfect development, find in the same locality, and side by side, their peculiar mineral constituents, and extract from the soil such and only such as that development requires. Another cause of the heterogeneous character of our plant growth, is the means nature has provided for its planting and distribution. The wind, water currents, birds and animals are God's planting husbandmen, and drop their seeds at random, without seeking for the adaptation of the plant to the soil. Seed thus planted germinates wherever there is sufficient moisture to expand its covering, and the young plant seeks, finds and appropriates its natural food. Other causes that effect plant and soil adaptation, are elevation and aspect. Soils of the same geological origin, and which to the practical eye are perfectly alike, are found to sustain a very different vegetable growth at the base, and on the top or side of a mountain of moderate elevation. And at the same elevation on opposite sides, north and south, one produces oak, chestnut and maple, the other white birch, hemlock and laurel. The most difficult

problem to be solved, if the theory of fixed adaptation of plants to soils is true, is the succession of vegetable growth on the same soil, or nature's crop rotation.

The dense primitive forest of pine, on its native granite soil, being removed, is invariably succeeded by oak, maple and chestnut. The primitive crop of oak, chestnut, birch and maple on a soil best adapted to it, when destroyed, is succeeded by a growth almost exclusively pine; and this rotation occurs on soils of clearly-marked geological character. Notwithstanding these indisputable facts of plant-distribution and rotation, it is yet true that plants, to a limited degree, partake of the nature of the soil in which they grow, and chemical science and observation prove that only in a soil characterized by their own mineral constituents, can they find food for their *perfect* development. Rye, native on the granite soil of the Crimea, when removed, brings forth its best proportions, and in perfection only on a similar soil, though it grows finely on most soils that are not destitute of silica. The willow seeks the water-courses, and many grasses and plants are found native only on the margin of streams, or in the vegetable deposit of the muck-swamp, while others are found on light silicious loam or arid sands. The grape receives its flavor, to some extent, from the soil on which it grows, and with an identical aspect and elevation, localities but a short distance apart, but of different soil, produce a very different quality of fruit of the same variety. Seeds of wheat, produced by a forced growth on soils deficient in lime, are found deficient in the best qualities for animal nutrition; and if soluble silica is wanting, its straw has not the necessary hardness, and it falls and fails to ripen. Many other plants are changed in color, in general appearance and intrinsic perfection by the soil which nourishes them, and others still, when removed to an uncongenial soil, sicken and die. The seeds of the pine, lodged in the marsh or on the mountain, with a mixed soil-bed, take root and flourish in a greater or less degree of perfection, according as they find in abundance or otherwise their peculiar mineral constituents; but nature shows its true home to be on the granite soil of the sandy plain, as seen in the primitive pine tracts of New England and the Carolinas, or of Russia and Siberia, and wherever found as the prevailing or exclusive growth, indicates a soil of light silicious loam, with a



small per cent. of organic matter, perfectly adapted to the growth of the rye-plant, of easy adaptation to corn, and, to a limited extent, to wheat; a soil which forces plants to a rapid growth and early perfection, but too porous, and not sufficiently absorbent and retentive for grasses and other grains. On the other hand, the prevailing or exclusive forest being hard-wood, oak, walnut, elm, birch, maple, tell of a soil of finer and firmer texture, with more of organic matter, and with great power to absorb and retain. They indicate a capacity in the soil to nourish and bring to perfection all the best grasses, wheat, oats and barley, and of easy adaptation to corn, fruit and edible vegetables. Pure forests of hemlock or spruce are usually found in their primitive state on soils of slate origin, or covering mica slate, and are of less value for agricultural purposes than hard-wood soils. They grow grass in greater abundance than pine soils, and produce the coarser grains indifferently well, but for the finer grasses and grains are not desirable. The practical man, seeking a kindly soil for cultivation, would shun that whose natural wood-growth is the cedar, as one coarse in texture, nearly destitute of soluble plant-food, either mineral or organic, and on which the limited plant-growth would hardly repay the labor of cultivation. The same is true of many of our shrub-plants and the red and white mosses,—indicating a soil composted, insoluble and lifeless, deficient in potash and lime, difficult of cultivation, and capable of producing only a scant growth of coarse herbage. There are some plants, which, though of themselves a nuisance to the farmer, are a sure indication of a fertile soil, full of plant-food in a soluble state, and easy of cultivation. Of this class are the thistle, the yellow dock, burdock and morning glory, telling of a soil highly organic, of remarkable fineness, of great absorbing power, and all its mineral food in a state to be easily taken up by the plants germinating upon it. Some of the grasses, one of which is the beach-grass, seek almost pure sands for their home, and by their rank growth indicate a fertile soil, but they should be to the farmer a sign of sterility for all ordinary purposes of cultivation. Plants potted, and treated with several varieties of food, have the power of indicating to the operator that best adapted to their development, and the slightest change of materials placed in the soil, is often the difference between total failure and perfect success.

So it is in the great work of field-culture, by a wise and judicious observation and management, the operator is enabled often by slight additions to the soil, to so change its mechanical or chemical condition, as to produce with certainty and in perfection, plants which seek a different soil. But the great success with small cost accrues when nature and art combine, and work in harmony for the same grand result.

LEVI STOCKBRIDGE.

An interesting discussion followed on topics suggested by the Essay, when it was laid on the table, but subsequently taken up and adopted.

An Essay was also submitted upon the

#### ADAPTATION OF CROPS TO SOILS.

BY JOHN B. MOORE.

This is an important subject, and every intelligent person will at once see the necessity of adapting his crops to his soils; for by that plan only can he succeed in uniformly producing good crops.

And why is this so? It is for the reason that certain soils contain the particular food required for the perfection of certain plants, while at the same time they are deficient in some of the requisites for another class of plants; or, if they have the particular requisites, they are held in such a condition as not to be available as plant-food.

Now a soil to grow any plant in perfection must contain the necessary food required by that plant, in such quantities and in such a condition that it may be readily assimilated and taken up by the minute rootlets of the plant for its use and nourishment; but still a soil may contain all the nourishment required—the nitrogenous matters, the humus, phosphates, and all other elements ordinarily necessary for the growth of plants—but be lacking in some one particular, water, for instance, which would unfit it for the growth of one variety of plants, while too much moisture in the same soil would most certainly render it unfit for the growth of some other plant.

Thus we find that there must be the proper amount of moisture, and also heat, to produce plants in perfection, as well as soluble plant-food.

Some plants are better suited with one kind of soil, and others with an entirely different one. Beans, corn, rye, barley and buckwheat prefer a warm, and the first a rather dry soil; wheat, oats, the grasses, and most of the roots, require a heavier and more moist soil to grow them to perfection; while grass and potatoes seem to be the most suitable crops to cultivate on a moist or peaty soil. We are well aware that some of these varieties of plants produce good crops, in favorable seasons, on all these different kinds of soil—as grass and potatoes in a wet season will produce good crops on dry soils, when in a dry year they will prove nearly a failure.

Many of the best farmers in this State endeavor to adapt their crops to their soils, and to put them in a proper condition to sustain the particular crop, and succeed well when not prevented by the fluctuations of the seasons, more particularly as regards moisture. Others, who do not pay any attention to it, make a total or partial failure occasionally, and do not succeed, as a general thing, in producing full crops so often. As an instance, a farmer, who has a swamp composed almost entirely of vegetable matter, on which he has grown potatoes in abundance, seeds it to grass in August. In the month of June following he finds his grass with slender stems, totally unable to support itself erect, so that the crop falls down, dwindles away, and results in nearly a failure. If he is a novice in farming, and has never seen such effects before, he inquires the reason for this, and finds it is simply because he has not furnished to the grass one particular element necessary for its perfection. So, on a soil otherwise admirably adapted to grass, the crop results in a failure for want of a little silica, which could have been furnished in a light dressing of sand, the want of which rendered the soil in this instance unfit for or not adapted to the crop.

So far we have divided soils only as relates to their moisture. The divisions commonly found in Massachusetts are sand, or sandy loams, clay, clay loams, vegetable, or peaty soils, or the different combinations of them. Each of these, by its composition, is better adapted to the successful production of some varieties of plants than to others. As we have before said, beans, corn, and some other plants prefer a sandy loam, although they will grow well on a clay loam, when not too wet; oats, wheat,

and some varieties of fruit, as the pear and plum, grow best on a soil where there is a large proportion of clay ; grass and potatoes on a vegetable or peaty soil, and also on all of the soils which have been named, where there is a sufficient quantity of water present to supply the wants of the plant. Of course, to produce healthy plants, which must in the end result in good crops, all these varieties of soil must contain or be supplied with an abundance of proper and nutritious food, suitable for the perfection of the particular crop expected to be grown, and in a condition immediately available for its use ; for plants, like animals, attain to greater perfection when they are grown without receiving any check.

As an illustration : How is it with the breeder of stock ? If he is an intelligent person, he will, after providing suitable animals to breed from, combining all the requisites he desires to perpetuate in the progeny, carry out still further the necessity of the case, and not stop there, but will see to it that they are well fed, cleaned, sheltered, and receive such other care, that the animals may be thrifty and good specimens of their races.

There is the same good reason for feeding a crop ; for after providing a suitable soil, it will not do to stop there, and not furnish the proper amount of food for a full product, for a small or medium crop may not pay expenses, and will require nearly the same amount of labor for cultivation, and the same outlay for land as would be necessary for a large crop which would pay a good profit over all expenses.

It is within the power of most farmers to amend the soils on their farms to some extent, and thereby adapt them to a greater range of crops, as by dressing sandy soils with clay, which, by that means alone, will make them become permanently better and more productive, and will give to the soil greater power of retaining moisture and manure for the food of plants, while an amendment by the application of muck or peat will give value for a time, but would be exhausted by cropping in the same way as manure, only at a slower rate. On clay soils the application should be directly the reverse,—that is by dressing with sand, for the purpose of giving the soil less tenacity, and making it more loose, porous and friable, and also by the application of coarse manures, which not only supply food for the growing plants, but mechanically loosen such soils.

Chemistry has done something towards showing us the necessities of plants, and what they require as food ; still there is one element in the production of good crops which the most eminent chemists have not been able to detect by the most careful analyses, either in soil or crop, and one which we cannot expect them to find, although it is of the utmost importance to successful farming. I mean a reasonable amount of brains that have been trained not only theoretically, but practically, by agricultural observation, experience and practice, sufficiently well to be able to adapt the crops to the soil, and furnish the proper food for the same. For this we must not rely on chemistry, but on our schools and colleges, and more particularly that thorough observation, together with experiments and practical growing of crops on all soils, which makes an intelligent and observing farmer master of his business.

To an inquiring person the small word ' why ' often suggests itself, and is a very expressive one. We raise a fine crop of wheat, and not having been successful heretofore with that crop, if we have not the brains spoken of, we at once attribute it to luck ; but if we have, we desire to know the reason why. If we could only tell exactly the reason why, of course we could do it again. The next year perhaps we fail in getting a good crop, and why this failure ? Is it not as a general thing from the want of adaptation, or unfitness of the soil, either from the want of the proper fertilizers or some other cause ? This same rule will apply to the success or failure in all crops, and shows the necessity for careful observation and experiments, and that not manual labor alone, but head work is essential to success.

This whole subject we regard as very important to every person who is cultivating land, for success will materially depend upon the judgment used in this respect.

The Creator of all things has furnished us with the soil, heat from the sun, moisture from the clouds and dews, and all other proper constituents for producing a crop, leaving us to adapt the crop to the particular soil intended for its cultivation, to prepare the land and apply the proper kind and quantity of manure, to plant the seed and cultivate the land, and to use all the means within our reach in such an intelligent, timely, and proper manner, as to insure success to us as farmers. Shall we avail ourselves of every source of information within our reach,

from books, newspapers, teachings of practical farmers, or shall we plod along in the old track, exhausting the soils and decreasing our crops?

This is a question of vital importance to every farmer in the country, for upon his practice in this respect will, to a large extent, depend his individual success in producing good crops, which is truly the result of adapting the crop to the soil, and supplying the requisite amount of manure.

JOHN B. MOORE.

A. P. SLADE.

This Essay having been read and discussed, was laid on the table under the rules, but subsequently taken up and adopted.

The following Essay was submitted upon

#### TRANSPLANTING FRUIT AND FOREST TREES.

BY ASA CLEMENT.

Planting and replanting trees has engaged much of our attention during twenty years last past; and, as we think, owing to the great variety which spring up spontaneously in almost all the surrounding forests, the multiplicity of useful offices which it is evident the Great Architect designed them to fill, thereby contributing to the happiness of him to whom He gave dominion over the beasts of the field, the fowls of the air and creeping things on the earth, our interest in the subject does not diminish as age creeps over, and Time leaves its footprints marked upon our visage. Indeed, when we reflect upon the wisdom and goodness of Him who furnished this almost endless variety of trees with which to beautify the earth, together with other important services which they render to us, it would seem to be the height of ingratitude to manifest, not merely indifference to, but a want of enthusiasm in, a matter which contributes so largely to our comfort and happiness as intelligent beings, and dependent as well.

In planting any tree which is drawn from the soil with naked roots, we regard it essential that all mangled roots should be trimmed carefully or entirely removed, and that all roots cut off with spade or other blunt-edged instrument should have the end smoothly pared to where the wood is clean and sound. When trees are treated thus and set, a row of fibrous roots shoots into the soil at once from the clean cut ends.



In the case of evergreen trees, which we usually cut round and raise out of the soil with a ball of earth adhering to the great mass of rootlets which that class of trees generally send out, the necessity for root pruning may not seem so urgent, yet there are instances, frequently, when the knife may be applied to advantage.

When, as is sometimes done, deciduous forest trees are set in barren, gravelly places, let an excavation be made large enough to take in a cart-load of good soil, and wherever trees are to be planted, whether in the well prepared border, the well tilled field, or on the lawn, holes should always be made sufficiently capacious to receive the roots without cramping. Neither is it less important that the roots be all spread out in their natural position, and the earth placed round them in the most careful and thorough manner, the while, keeping the head plumb over the stool, in order that the replanted tree may keep its position after the work is done. We can scarcely imagine a more unsightly appearance than a line of trees recently planted, some of which lean one way and some another, all points of the compass being indicated by the inclinations. In locations where newly set trees are exposed to raking winds, we recommend placing about the roots a little coarse litter, and upon that some flat stones, to keep the mulch in place and the trees in position. We are not a believer in tying trees to stakes to *hold* them in place, nor would we use stakes in tree planting except to protect them, in case of necessity, against damage by animals, and then at a little distance off, when, by a judicious use of listing or leather straps, injury by chafing would be avoided. The preceding remarks are applicable both to fruit and forest trees.

Of our native forest trees which will bear removal with scarcely room to doubt of success when the work is properly performed, may be named the elm, maple, ash and birch families, in all their variety.

The lime (basswood,) is a beautiful and honey-producing tree, as safe in removal as a crab-apple. Hickories and oaks much more uncertain. Chestnut ditto, though we believe the latter are less liable to fall. All, however, may be moved when quite small, successfully, if a reasonable share of skill, care and

labor, are devoted to the operation.\* All our native evergreens, we think, may be safely transplanted, if in digging, a portion of the soil is removed with the roots. There is one class of deciduous trees which we much dislike, viz., the poplars.

Some of them are attacked by borers and nearly or quite all of them sucker badly. The abele, even, we would not use except in particular localities. Our native white ash when planted in the cities, makes a clean and fine looking tree, but is liable when thus located, to be attacked and destroyed by borers. In the country where birds are more plenty, we have never known a failure from such source.

Among the imported trees which endure the rigors of our New England winters are the Scotch larch, Norway and sycamore maples and Norway spruce, the latter one of the very best evergreen trees. There are others which are hardy, also, and many which will not endure our climate, but which thrive a few degrees south of us. There is no lack in variety or quantity of deciduous or evergreen trees for all practical purposes for which transplanting is resorted to. We ought to have mentioned in another connection that trees which cast their foliage in autumn should, at the time of planting, have the branches that are inclined to straggle cut back, and the head brought into symmetrical form. If the roots are few in number or cut off short, let the branches be shortened correspondingly.

We have frequently planted rows of elms and sugar-maples directly from the forests, which had, before cutting off the heads, much of a fishing-rod resemblance, but, after planting, were more the pattern of a bean-pole. Those trees are always furnished with dormant eyes, or little buds which never would push unless forced to do so. They may be discovered at the base of the branches along the main stem, remaining in the same position many years, or until induced to grow, through a loss of branches or the top of the tree. Some of the best rows of trees within our knowledge were produced in that way.

It has always seemed surprising to us that so little interest should be manifested by landholders, generally, in relation to

\* Alluding to the hickories reminds us of an error that occurred in the published report last year, upon the "management of forest trees" in remarks upon the hickory family, where we wrote "bitternut" the printer made us say batternut, which is a great mistake in a small way.

such simple and yet so beautiful adornments as the planting of a few trees by the roadside, around the buildings, or in comparatively waste and barren places.

Scotch larch and pitch pine will grow where a mullein would not spindle fifteen inches high. Those trees, gray birch or river birch, appear much more agreeable to our vision than complete barrenness. The chestnut will thrive on a comparatively sterile soil. The trees should be taken from the nursery or from open ground, where they have been exposed to the sun a part of the day at least, otherwise they will catch a sun-scauld which they cannot endure. They should be removed when quite small, and care taken not to chafe the roots, else the operation proves a failure.

• The European lime, mountain ash and native locusts are all trees which thrive in some places, and would in many others if the borers all had their pincers broken. So long, however, as there are plenty of varieties which resist the attacks of insects or their larvæ, and which are perfectly hardy, we need not enumerate a catalogue of those which have proved otherwise.

The elms and sugar-maple are in our view the leading sorts for street-planting and roadside shade. Lime, white ash, horse-chestnut, larch, with occasionally evergreens interspersed, for variety's sake, may produce a good effect in relieving the tedium of monotony. We regard it as a duty of all landholders upon our public highways to plant shade-trees by the roadside. Perhaps, though, it would be better for towns in their corporate capacity to take the matter in hand, and relieve individuals from such burdens. At any rate the subject cannot too frequently or too strenuously be urged upon the attention of the community at large. Travellers, whether pedestrians, equestrians, or in vehicles of any style, or of no particular style, do not often fail to appreciate the advantages to be derived from shaded thoroughfares during the heat of summer. Why, the thought of driving through a village where the houses are mainly painted a glaring white, in an August sun, without a green tree to relieve the eye or cast its shadow, will almost produce a painful sensation without the reality of a ride.

On the other hand, we venture the assertion that no gentleman or lady, who had the slightest claim to such titles, aside from *pants* and *skirts* which covered their nakedness, has

driven through the village of Pepperell within the last fifteen years without experiencing pleasurable emotions through the aspect produced by the lines of maples which shade the streets. Other places are equally noticeable.

Some farmers who have numerous acres in other places, plant fruit-trees along the fences by the public highway. The expediency of such a course was never apparent to us, because there are two serious objections to it, viz.: It is tempting people to break the eighth commandment; and many such trees, when large and bearing, prove to be much in the way. Loaded teams breaking branches and prematurely shaking down the fruit, is no uncommon occurrence. A public highway should not be thus or otherwise infringed upon. Set appropriate shade and ornamental trees close up to the fences on the roadside, and the fruit-trees where the branches will not hang over the streets.

Open and bleak situations are in large measure unsuited to the growth and bearing of fruit, from the fact that trees thus exposed are liable to assume a leaning position, rendering them less capable of supporting great weight, and increasing the danger of being uprooted, with the additional drawback of having much of the crop threshed off before maturity. If the selection of a more favorable location is impracticable, plant at once belts of forest trees near the skirts of such orchard that is to be, in such manner that the force of strong currents shall thereby be broken. The better location for an orchard of apple trees is a side-hill or gentle slope, considerably elevated above the bed of streams and frosty hollows, and protected on the north and west sides by still higher grounds or by forests. No damage will arise, but rather beneficial results, from protection on all sides.

Newly-cleared land is preferable for this purpose, because such soils contain more of the ingredients which enter into and nourish the growing trees than old land, so called, without much preparation and continual care being bestowed upon the latter. If land for this purpose is taken, from which a heavy growth of oak or other hard wood has been recently cleared, apple trees will thrive for many years with less than half the attention and dressing that will be requisite to produce the same results on an old field. If rocks abound in the soil, no detriment will accrue to the growth or bearing qualities of the trees from that source,

but rather the reverse on both points. After transplanting an orchard, keep a sharp look-out for borers, which will be found to enter the smooth and green bark, not unfrequently where the branches fork, but more generally near the earth's surface. The larvæ that has found a lodgment in the branches, will, in almost every case, be found and devoured by the woodpeckers between the months of October and April, while many of those which enter near the ground will escape the harpoon of these sensorial birds. Hence the necessity of examining often all the young trees where this pest does prevail.

We have learned that the mother beetles will not deposit their eggs upon a coat of lime whitewash, and, as the wash works no mischief, we do not hesitate to recommend the application of a good coat early in the month of June—first scraping the earth away from the stool and cleaning off the rags, or rough bark, that the wash may thoroughly cover the bark from the surface up the trunk, eight to twelve inches. In operating in that way we have found that where spots were left uncovered, the little pests would find the way in. After the wash is applied, let the soil be replaced, or the roots will be attacked, which is seriously objectionable.

All insects or larvæ, which prey upon the foliage should be guarded against, that the leaves may be abundant and healthy.

Forcing, high culture, recommended by some may be the wiser course to pursue in many localities and with some varieties of apples; but truly, if that course should be adopted wherever apples are grown throughout New England, there would be a great failure forthwith of some of the less hardy sorts, in many places.

The Ladies' Sweet, Baldwin, the latter the leading winter apple in this region, not unfrequently freezes to death when kept growing late in the season. The more safe and more economical method of treatment for that tree, is to give a suitable location, avoiding sandy soils and frosty hollows, bestowing that amount of attention and dressing which will give a fair growth early in the season, allowing the wood time to ripen up before winter approaches. Treated thus, the hope of harvesting many crops from the same tree may be safely indulged.

There are other varieties which will not bear the hot-bed and forcing process with any degree of safety, even in northern Massachusetts, with open orchard culture. In close, protected gardens in the cities and suburban towns, losses from winter killing more rarely occur, and altogether different treatment may be admissible and even desirable.

Probably there are but few localities in the State where a large majority of the highly prized apples will not bear considerable forcing; yet, while there are some that will not, we think the exercise of at least moderate discrimination, in the mode of treatment, will be followed by beneficial results.

It may not be amiss to touch briefly upon varieties, not that we desire in this connection to recommend a list for any particular locality, or for general cultivation, but rather for those who are about to transplant an orchard, or a garden, it will be important before making purchases to consider well the purpose for which fruit is wanted, whether for home consumption, for a neighboring market, which it is desirable to attend steadily or occasionally through several months, or whether the market is at such distance that the more judicious course will be to convey the fruit thither in bulk and wholesale, then make the selection strictly with reference to the demands of the place. Much fastidiousness is frequently manifested by purchasers of trees, because, forsooth, they do not appear so thrifty as they hoped to find them.

Many thousands of apple trees have been transplanted by the writer, and we have always observed that in the case of those trees which had been forced, making long shoots the preceding year, a good deal of cutting in of those long branches must be done, or a lean and stunted growth followed. We apprehend that the difficulty lies in the fact that there are too many buds for the roots to support, for such trees do not usually contain roots proportionate to the head, or top, and we account for the curious facts in this way. The trees having previously drawn their nourishment from fat, fertile soil, so many mouths were not required, or if they were they could lie nearer together, and draw in all the nourishment needed to push the trees vigorously. On the other hand, we have almost invariably observed that trees of moderate or slow growth, the superinducing cause of which was scarcity and want of food, the balance between the



root and top was better kept up, and in many instances the preponderance of root over the top was clearly apparent. Such trees removed to soil in better condition than that from whence they came, in our experience, have seldom failed to make good growth the first year, thus corroborating the correctness of our theory.

We are writing about trees which were afflicted with *no* disease—deficiency of food alone, was all that retarded the making of wood. In that condition we have set many hundreds which had for some years increased so little in size that it was difficult to ascertain their age. The results proved satisfactory, with rare exceptions.

To the peach the remark that there is nothing more certain in this world than that everything is uncertain, seems to apply with peculiar force, especially if we take the number of crops which have been harvested during the last nine years as the basis for arriving at conclusions.

Many are of opinion that another cycle of years will produce different results; that ere long the frequent seasons of abundance of this delicious, refreshing fruit will "come round;" and to show that their faith is a living one, they continue to plant trees. For the encouragement of those who desire and are determined to try to cultivate peaches, we will remark that from a little experience and more observation, we have arrived at the conclusion that the north and westerly slopes of high lands are far better than a southern declivity. Several of the most fruitful orchards which we have known on the northern border of this State, and in Hillsborough County, N. H., had exposures where the mountains in the distance, in the west and north-west, were in full view.

Were we philosophers, we would reason in this way, in order to convince others of the soundness of our views on this head. The peach is a tender tree, and seldom found in the winter in condition to resist freezing to the extent of more than ten degrees below zero, without destroying the fruit buds and much injuring the vitality of the tree. It is also quite sensitive to sudden and violent changes in the weather, and scarcely less so during the period of rest. Now, then, on the high ground, although the aspect seems rough and bleak, the mercury does not run so low as it does in the hollows and less exposed situ-

ations. Neither are the north and west sides of such elevations so much affected by thawy periods during winter. In short, trees thus exposed do not freeze so hard, do not thaw out so often, do not experience so many degrees of warmth, and, of course, are permitted to remain more nearly stationary, which approaches what is needed. Better still, could locations be found, and made available, where the variations should prove vastly less in degree and more unfrequent.

ASA CLEMENT.

S. JOHNSON.

GEO. A. KING.

After the reading of the Essay it was laid on the table, to be taken up for a second reading, when it was adopted.

An Essay was presented on the

#### CULTURE OF THE CRANBERRY.

BY GEORGE A. KING.

Within a few years the culture of the cranberry has become one of our important industrial interests. In the county of Barnstable alone the value of the cranberry crop for the last year was not less than one hundred thousand dollars. A considerable degree of care and attention has been bestowed upon the cultivation of this fruit, and the ordinary conditions of its growth are very well understood. There are, however, a number of perils which the cultivator of the cranberry is obliged to encounter. These are the frost, the worm and the rot.

1. The destruction caused by the late frosts of the spring and the early frosts of the autumn has been so frequent and extensive, that the feeling has become general among cranberry growers that no bog is of much value unless it is so situated that it can be protected from injury from this source. The only means by which the disastrous effects of late and early frosts can be averted is an overflow of the bog. Fires have utterly failed to furnish protection against the frosts; and in order to successfully counteract them, an abundant supply of water is indispensable.

2. Another difficulty in the way of successful cranberry culture arises from the ravages of the worm, of which there are

two kinds. The most destructive is that which is known as the vine-worm. The first indication given of the presence of this worm is about the latter part of April, when, by careful observation, a small miller is discovered about the cranberry bog. This miller punctures the fruit-bud and lays its egg within it, and having been visible about ten days, disappears. Then, in warm localities, the larva makes its appearance in the bud about the fifteenth day of May. At first it is hardly discernible, but it feeds upon the bud and the vine and grows rapidly, and in about ten days comes to maturity. It then webs itself up and lies in the chrysalid state for seven days. Then the miller shows itself for ten days, lays its egg, and disappears as before. This generation appears in comparatively small numbers. They inflict no material injury upon the vine. But about two weeks after the disappearance of this miller—and this is in the last part of June or first of July—the larvæ of the next generation make their appearance upon the vine in great numbers, and for the ensuing ten days their ravages are very great. The worm begins at the top of the vine and eats downward, destroying the blossoms and the new growth of the vine. When they are very numerous they feed also upon the growth of the previous year. From the tenth to the fifteenth of July his career is ended, and he passes into the chrysalid state to appear again in due time.

It is said that three and perhaps four generations of this worm appear during the season, showing themselves on the bog as late as October. The vines, however, do not suffer from them to any appreciable degree at any time except during the early part of July. The only method of protecting the vine against this worm is by flowing. When the water is kept upon the vines until the first of June the generation of the worm is prevented, and so far as he is concerned the crop is safe. This worm bears a resemblance to the apple-worm. Its color is light, with a bluish tinge, and its head is black. It is about three-eighths of an inch in length when fully grown. The miller appears to be somewhat longer, is of a gray color, and has a white stripe across the back. It flies but a short distance, usually not more than a foot at a time. There are two bogs in the town of Dennis lying close together, being separated only by a road that runs between them, the vines running to the ruts on either side. Yet one of the bogs has been infested for more

than one season with the vine-worm, while the other has escaped entirely.

3. The other worm from whose depredations the cranberry bog suffers is known as the fruit-worm or berry-worm. The miller is first seen about the 25th of May. Towards the middle of July it deposits its egg under the skin of the growing fruit.

The worm makes its appearance in the berry during the last of August. Its presence is shown by a premature redness of the fruit. In about ten days he destroys the berry and emerges from it, and passes into another. One worm will destroy perhaps half a dozen berries. Then in the early part of September, it goes into the ground and lies in a chrysalid state until about the 25th of May, when it appears again in the form of a miller, as before stated. Although this worm destroys the fruit to a considerable extent, its depredations are far less serious than those of the vine-worm. Indeed, I have heard cranberry growers say they cared very little about the fruit-worm. When they destroy a portion of the berries upon the vine, the remaining ones grow to so much greater size as to compensate in a considerable degree for the loss of those which they take.

The remedy in the case of the berry-worm is to flow the bog after he has eaten out of the first berry, and is exposed to the effects of the water. This worm resembles the vine-worm in size and form. Its color is white with a yellowish tinge, and its head is red.

4. Another obstacle in the way of cranberry culture is the rot, which is observed about the first of September. Until within a few years no great trouble has been experienced from the rotting of the berry, but it now constitutes a peril of a good deal of magnitude in the way of the cranberry grower. And it threatens to be as destructive as the worm or the frost. In the season of 1865, Cyrus Cahoon, of Harwich, one of the most extensive as well as one of the most intelligent cranberry growers of Barnstable County, had a fine lot of growing cranberries estimated at eight hundred barrels. The berries were however invaded by the rot, and only 171 barrels out of the 800 were saved.

This form of injury to the crop is comparatively recent, and as yet no method has been devised to prevent it. Cranberry cultivators are not agreed as to the cause of the rot. Dr.

Stone, of Yarmouth, who has bestowed much careful and intelligent observation upon the subject of cranberry culture, is of opinion that the rotting of the berry depends upon the character of the vine. Others think that it depends upon the nature of the soil.

These particular perils, which I have enumerated, are sufficient to show that the cultivation of the cranberry is very hazardous, without a ready and abundant supply of water, and that the crop may even then be lost by causes beyond control.

For the Committee,

GEO. A. KING.

This Essay was adopted after taking its second reading in regular course.

MONDAY, February 4th.

The Board met at 10 o'clock, A. M., Mr. STEDMAN in the chair.

A Report was presented on the

#### AGRICULTURE OF WORCESTER SOUTH.

BY N. S. HUBBARD.

In making up a report of the condition of agriculture within the limits of the Worcester South Agricultural Society, your Committee would say that attention is not given exclusively to any one branch of agricultural industry, but is made up of those best suited to the more hilly portions of Massachusetts.

The crop which receives the most attention, and the one from which the farmers of this locality must in some way derive their greatest revenue, is from the grass and hay crop, so that much attention is given to improving the condition of the pasture and mowing lands. It is impossible to improve the condition of pastures, to a great extent, in the same way the cultivated fields are, by ploughing or top-dressing with compost manure. It is too often the case that the pasture land is entirely neglected; left to produce what it may, without even spending one day in a year to remove brush or shrubs that have come up to choke the growth of more useful herbage.

I have noticed with astonishment sometimes the difference in the production of land apparently similar, by removing the brush and the application of plaster. This, in some localities, is extensively used, and is found to be one of the most profitable investments the farmer can make. By the application of two hundred or two hundred and fifty pounds per acre once in two years, many pastures produce twice or even thrice the amount of feed that would be produced without its application, and of a far superior quality. Where it is used and found to be thus beneficial, the farmer depends almost as much upon plaster for his pastures as he does upon manure for his cultivated fields. Where plaster is adapted to the soil, I think nothing can be used by the farmer that will bring so good returns for the amount invested. As it is not adapted to all soils, every farmer in all localities cannot depend upon it for increasing the productiveness of his pasture lands. It is better adapted to hilly pastures, or the land most natural to the production of clover.

The hay crop the past season, although better than the year previous, was hardly an average one. This was in part owing to the extreme dry weather of the two previous summers, causing many of the grass roots to be killed upon fields that had formerly been ploughed. The abundant rains of the past season greatly improved them, so that the prospect for a future crop is greatly increased.

The corn crop was not large, owing in part to the continued cool weather in the month of August. Some portions of it were fair, while others were light. This is a crop that cannot be raised here as profitably as in the valley of the Connecticut River or some other portions of the State. The crop is not sufficient for home consumption. Large quantities are transported from the West for the use of farmers as well as others.

The potato crop was quite good, with very little loss from the rot. The price was sufficient to render fair returns for its production. Wheat is not raised in large quantities, although many farmers nearly supply themselves with this product, and I think many more would get quite as good returns from wheat as oats. The past year oats suffered very much from rust, and the crop was quite light. In some instances the oats were hardly heavy enough to pay for threshing. Rye and barley are raised in small quantities.



Garden vegetables are raised mostly for consumption within the limits of the society. The cabbage crop was beyond the demand for family use, and in some instances was fed to stock ; and I am satisfied that it is valuable for that purpose, as many tons can be raised upon an acre. The root crop receives some attention, but not as much as in many other parts of the State. I have seen no such quantities as I saw upon the premises of Dr. George B. Loring, of Salem.

The fruit crop, except pears, was almost an entire failure. I hardly saw or knew of any peaches grown within the limits of the society ; and but few plums or cherries. Much attention has been given to the setting of fruit trees, especially the apple and pear. But the past two years has dampened the ardor of some, fearing that their fond anticipations are not going to be realized. One fruitful season, however, will probably in a measure dispel these doubts. We have not as yet suffered from the effects of the canker-worm, as have some parts of the State.

In the northern section of the society, Brookfield, Warren, and Brimfield, the attention of the dairyman has been turned to the furnishing of milk for Boston market, and is still continued. A car runs regularly from Warren to Boston during the entire year. It has carried 201,073 gallons of milk, which has brought to the farmers the sum of \$31,753.94. There is a condensing milk and cheese factory at West Brookfield. The amount of milk used I was not able to learn, or the amount of income. They have made about 30,000 pounds of cheese, besides the condensed milk.

There is also a cheese factory in the south part of Warren, using the milk from 450 cows, from that part of Warren, and the north part of Brimfield. This factory was in operation from the first of April, till the first of November, and made 142,767 pounds of cheese, from 170,823 gallons of milk. The cheese was mostly sold to Charles H. Stone, of Boston, and Lane & Adams, of Springfield. The whole amount of receipts for cheese, was \$27,067.36. Whole amount expended in the manufacture and materials used, was \$3,869.85. This leaves a net profit to the farmers, of \$23,697.85, or sixteen cents and six mills per pound. In the bill of expenses for manufacture, materials, &c., freight and marketing are not included, as a large part of the cheese was sold at the factory. Freight and

marketing from Warren to Boston, was not far from three-fourths of a cent per pound. In addition to the above income, the whey is estimated to be worth from four to six dollars per cow.

With these improvements in the management of the dairy, and the modern machinery brought to the aid of the farmer, much of the labor, both in doors and out, is very much lightened, and the business rendered far more inviting, as well as more remunerative.

I give a list of thoroughbred stock, as far as I have been able to obtain it. Bela J. Stone, of Sturbridge, has fifteen Ayrshires; J. A. Rich, of Charlton, has eight Ayrshires; the Hamilton Woollen Company, of Southbridge, have eleven Ayrshires and six Jerseys; W. Hammond, of Charlton, has five Durhams; E. M. Holman, of Millbury, has five Durhams; Daniel Dwight, of Dudley, has one Durham bull; Waldo M. Healey, has five Devons; H. H. Stevens, of Dudley, has one Ayrshire bull; Simon Carpenter, of Charlton, has one Durham bull; Zephaniah Baker, of Dudley, has some Devons; S. F. Marsh, and Nathaniel Upham, of Sturbridge, have some Devons. There probably are others, but these are all that I have positive knowledge of, within the limits of the society.

NEWTON S. HUBBARD.

This Report was adopted, when a similar Report was offered upon the

#### AGRICULTURE OF MIDDLESEX NORTH.

BY ASA CLEMENT.

In our meanderings around that part of the county composing the society which we represent, in search of material for a report which would in some respects prove interesting, edifying or instructive to any one whose eye should meet this, it has seemed much like the pursuit of knowledge under difficulties.

Possibly there is nothing new, unique or strikingly different in the husbandry of this from other sections of the State. Nevertheless, owing to the position and *central* circumstances, (if the expression is admissible,) Lowell, a thriving manufacturing city, being the hub of our agricultural wheel, there may be some peculiarities in the towns composing the spokes and rim.

of this wheel, which farmers have fallen into, or felt constrained to adopt in practice, and for which there may not be a demand in other localities, which are not familiar to outsiders. Perseverance being a virtue when given to a good cause, we resolved to make an effort; and if we shall be obliged to recognize the word *fail*, it won't be the first time we have been thus caught.

Let it be remembered that eleven towns and one city only are embraced within the limits of Middlesex North; that nine of those towns are within ten miles of our local market; that there is a large and increasing demand in that market for firewood, lumber, hay, straw, fruit and vegetables of all kinds; and so great is the demand for milk that almost numberless farmers sell all the product from their cows and depend, like most *citizens*, upon Vermont and New Hampshire for a supply of butter and cheese. So great has been the rush in the business of market-gardening that cabbages, tomatoes, green corn, melons, squashes, and even potatoes, last harvest-season, settled down almost to old-fashioned specie currency prices. Supply and demand must regulate the price of those as well as other articles, and like other things they will find their level.

Fruit, in our district, has not been abundant or cheap since 1862. Pears and grapes are grown to considerable extent in city gardens, and neither, in large quantities outside the city limits. Within the last year a few thousands of grape-vines have been planted, and more will continue to be from time to time. Peaches have played out, apparently, though many are determined not to be discouraged in relation to them,—we admire their pluck. Plums are as uncertain as peaches, or more so.

Apples have been scarce and high in price, the last three years. Instances may be cited, however, in our district, where the apple crop has not in long years been so profitable to the owners as during the last three. In no case is that true where the proprietors permitted the tent caterpillars to overrun their orchards. Some there are who have learned that care and attention bestowed upon fruit trees is absolutely necessary in order to secure returns, and that with this bestowal, remunerative returns are almost sure to accrue. It is a source of gratification to us that so few have lost faith in the apple. The next good and general crop will set the few doubting ones on tiptoe,

when great will be the demand for trees to plant. We find in every employment, almost, some whose perseverance and courage sink below zero, at a shock so slight as scarcely to be noticed by others. Let the timid ones, and all the faithless, observe the course pursued by the hopeful, who apply vigilant and vigorous strokes, leaving results to Him who sends sunshine and showers.

Much attention is given to raising strawberries, rhubarb and asparagus.

There is another enterprise which many of our farmers have latterly engaged in quite extensively. The production of parching corn may be regarded by some as a matter unworthy a notice here. Taking into account the amount consumed by one family alone, it would be so ; but, like that of friction matches, the consumption is enormous. Gentlemen may be astonished when we inform them, that fields of this corn in our vicinity, consisting of three to twenty acres, are not of rare occurrence. Large yields per acre are never sought after, because of the inferior quality of the article. Sandy soil with but a medium dressing is preferred. Raised thus, the quality is always good.

With the disposition made of limited quantities of this article we are all somewhat familiar ; yet the statements which follow may not prove entirely devoid of interest to many who shall read them.

Oliver M. Whipple, Esq., of Lowell, has formerly produced much of this grain, though for reasons best known to himself he planted but seven acres last year.

Justus Richardson, of Dracut, usually plants from eighteen to twenty-two acres, mainly on light soil, using for dressing 120 bushels of spent ashes per acre. His crop the last year, 1866, on twenty acres, amounted to 1,150 bushels, unshelled. Not a large yield, truly ; but, when the cost of dressing the land, and of nursing the growing crop—no seeds of noxious weeds being distributed with the manure—is considered in connection with the price at which the article sells per hundred pounds, it turns out very profitable, compared with other farm crops.

William Manning, of East Chelmsford, just without the limits of the city of Lowell, has fitted up an establishment which he is running successfully, but which, if not strictly agricultural or horticultural in its details, will at least show where an outlet is

found for much of the article about which we write. From October to July we learn from Mr. Manning, that *ten bushels of shelled corn* are daily used (popped,) making a prodigious pile.

From July to October, the demand for the manufactured articles is not so great, but yet, much finds its way to market daily. In Lowell there is another establishment, where considerable in amount is similarly used.

We have learned some facts in relation to blood stock in the towns from which Mr. Moore was unable to secure returns last year, but these facts do not bring to light any secreted specimens. One gentleman in a neighboring town, to whom we sent a blank to be filled, replied at once that there was not a pure blood in the town. Similar replies were received from other sources. Upon inquiry among the larger milk-producers, we found that very little stock of any kind is raised by them, that they depend upon the market to keep good their supply of cows, arguing that calves can be raised and stock grown cheaper where they have not a ready market for everything which a growing animal would consume. On the Fox farm in Dracut, which we believe is the largest milk-producing establishment within the limits of our society, keeping, as they do, from sixty to one hundred cows, we were informed that their former practice was, when these animals were comparatively low in price, to buy new milch ones, feed high, and milk as long as the flow was profitable, and then turn over to the butcher. Since this kind of stock has reached a high figure, the better animals have been kept over and permitted to come to milk in the natural way. When we inquired for blood stock, but two grade Durhams, and one that appeared to contain some Jersey blood, could be found in the herd.

We were informed also, while there, that no attention whatever was paid to blood in selecting cows—that they were kept for milk alone. The sixty which we saw tied in one barn, as a whole appeared remarkably well. If the substance of the preceding lines is not what was looked for by the Board, we trust that by them they will be led to infer that it is not through a want of energy and thrift that our people have given so little attention to stock-breeding; but that nearly all the wide-awake men have branched off into other channels; which is strictly

true. Surrounding, or, as we have before written, central circumstances, have seemed at least, to demand this course.

While our farmers have generally displayed much sagacity in adapting their course to the demands of the times, we must admit that there are some exceptions to this rule. Individuals fail to comprehend the difference between this and their grandfathers' time, if the line pursued is any criterion by which we can judge. Storing their hay and grain in the same old rickety barns, they of course tie their cattle in the stalls with about five and a half feet of space between the floor and scaffold over head, compelling a man of medium height to assume a bending posture on entering ; reminding one of rheumatism, receiving an occasional bump on the occiput, with other slight inconveniences, all of which would naturally teach one to exercise caution, a due share of which every one should possess. Then, of course, the solid part of the manure is daily thrown out at the same board windows behind the cattle, while the liquid portion is permitted to run through the floor, to be absorbed by the ground underneath, and kept out of the way of everybody.

Two hundred rods of board-fence are kept up around some worn-out piece of pine plains, that ten sheep may be pastured thereon, because grandsire did so. If a hog is to be killed for home use, 'tis done at the full of the moon, that there may be no loss by shrinkage, when boiling the pork.

The family are domiciled in the same old house, which has received just repairs enough to keep it from tumbling down and no more. If the orchard that grandsire planted continues to produce apples, the old musty barrels are filled up, and "horsed up" as we sometimes hear, in the same dark cellar, so that the old gentleman may have the means at hand for quenching his raging thirst and straightening his back-bone, when coming in from feeding and "*cleaning out*" the cattle on a cold winter morning. Grandfather, used to take his mug in one hand and a pine torch, or lighted splinter in the other, and go down, down into what he called "sullur" to draw his cider ; but the grandson, after looking and sometimes expressing audibly his regrets that the pine-knots are all used up, is compelled to resort to what he regards as the *next best* thing—a tallow candle, when he enters the dark regions below. Some, are so far demented as to keep a jug or cask of the miserably extended liquor of the



present day, with which to arouse their flagging energies, for the reason that grandfather and father always kept rum in the house. Is it not true that many of those underground excavations, dark, gloomy and loathsome, have all sorts of disagreeable odors ascending therefrom, even the smell of sulphur, reminding one of other regions? We would treat such plodders with all the respect and consideration to which their position entitles them; but, at the same time, if they cannot or will not be profited by the example set by their neighbors, a gentle *hint* may do them good.

These remarks in relation to thriftless persons who have so much regard for the customs of olden times, gentlemen will readily enough see, are applicable to persons with whom they are acquainted in all sections of the State. That they are exceptions to the general rule, we readily admit, and are thankful that the number is not greater. Also, that the remarks are intended for those alone to whom they will apply.

Good husbandry is understood and practised by much the larger share of our agriculturists. The fact that from nine to twelve dollars per cord is paid for all the stable manure that can be found in the city; that the night-soil is seized upon with avidity, farmers in many instances paying something for the privilege of clearing vaults, is conclusive evidence that the value of fertilizers is highly appreciated. After all, it is becoming a question with many whether paying so much for manure, and freighting the same from two to five miles over hills and through valleys, is not equivalent to buying money and paying a bonus for it.

Barn-cellars are generally kept well supplied with absorbents in the form of meadow-mud, scrapings from the roadside, soil from old headlands, or other material, which is occasionally thrown under the cattle, thus furnishing a strainer for the liquid droppings, and preventing in large measure the escape of volatile fertilizing properties. This constant care and attention to the saving of, and to the purchase of manure must not be remitted where the crops are conveyed to market in the form of vegetables and hay. On milk farms, where the roots and hay are fed to cows, and what is conveyed away from the farm goes in the more concentrated form of milk, less difficulty is experienced in keeping the soil fertile, comparatively so, at least.

Having alluded to barn-cellars, we are reminded of remarks occasionally thrown out by an *oddity*, that he would not have such an institution under his barn. The sentiment and remarks would be excusable, perhaps, had his knowledge of them been confined to such as we have witnessed in one or two instances. If a cavern is dug out under an old barn standing in a hollow, the owner need not be surprised if the manure is sometimes diluted with more water than is necessary or convenient. If such cellar or excavation has become a receptacle for ploughs, harrows, wheelbarrows, or other necessary adjuncts to farm operations, in addition to the manure heap, and these implements are frequently found submerged in cold, though not colorless, tea, the aspect is far from delectable.

During the last twenty-five years we have seen many barns erected, but in *no* instance without a cellar under the same. In more cases the sites have been selected with as much taste and judgment as the circumstances would allow, having special reference to saving and increasing the quantity and improving the quality of the manure. This is as it should be. The importance of saving everything which can be converted into food for plants is a growing sentiment that is becoming more firmly fixed in the minds of thinking and observing men from year to year. It is not a sentiment for thought, merely, but is being acted upon intelligently. The country is advancing in age and the population becoming more dense, rendering an increased and increasing amount of food for the support of human life a necessity; hence an imperative demand for a more bountiful supply of food to supply vegetable life.

In view of the fact that so little attention has been paid to the rearing of blood stock in our district, we feel constrained, in concluding our remarks, briefly to urge attention to this business. Remember that the extra expense of breeding blood stock is in the first cost alone. Having once started in the right direction by procuring your breeding animals, exercise prudence and judgment in pursuing the system in order to prevent contamination in the blood, and we apprehend no difficulty in the way of realizing abundant success.

While we are ready to admit that the great mass of farmers have not the means to branch out into experiments, unless they are first assured that success will crown their efforts, it is to be

regretted that so many are chary of small risks. Perhaps a better way of putting the case would be to say that too many of us are so attached to the old beaten track that it requires much talking, coaxing, and very often more convincing arguments to drive us out. Be that as it may, we are confident that if some of our agricultural brethren who are now raising scrubs at haphazard would expend a few hundreds of dollars in the purchase of animals adapted to their location—animals whose pedigree could be traced, and reliance placed in them for producing like—they never would return to the helter-skelter practice of scrub-breeding again. We discard the idea of treating the subject in the light of an experiment, for it is a fixed fact. Many have succeeded in raising blood stock after their own pattern, and what has been done can be again. The fact that some do not succeed does not militate against the theory or the practice.

There are some who never succeed in anything—they undertake, unless we except the building of air-castles, thus rendering themselves ridiculous, which they seem to do as naturally as a dog seeks for offal.

ASA CLEMENT.

This Report was also accepted, when the following was submitted upon the

#### AGRICULTURE OF MIDDLESEX SOUTH.

BY J. JOHNSON, JR.

In the commencement of the following statement in regard to a portion of the county of Middlesex, I cannot but feel some degree of hesitation and embarrassment, considering that a minute and interesting report was made so lately as last year upon this section by Capt. John B. Moore, of Concord.

The Middlesex South Agricultural district comprises eleven towns, with a population of forty thousand six hundred and fifty-four. The soil is varied, and generally well adapted to the cultivation of grass, Indian corn, oats and rye. Wheat crops, in some parts, are frequently raised, which well compare with those in our Western country, while in others they have proved a complete failure. It is a conceded fact that this crop is a great exhauster of certain elements of the soil, and, if it is desirable to continue its culture, we must supply the soil with those materials which go directly to nourish this plant and

grain. Different plants require different elements. In a word, it is as essential to supply plants with that kind of nourishment which their peculiar organization and design demand, as it is to furnish man or beast with that kind of food required to impart vitality, vigor and strength. The average number of bushels of wheat raised per acre in this district probably does not exceed fourteen, but some of our best cultivators obtain from twenty to thirty. This would be considered a large yield at the West.

As a saving of time and space, I will reduce the expression in this Report, as far as possible, to the form of figures.

This district embraces 1,859 farms; these support 5,880 milch cows. The number of gallons in milk sold was 621,929; average price per can was 45 cents, amounting to \$139,558. From the 209,695 pounds of butter sold, averaging 42½ cents per pound, was realized \$89,220. Veal, per carcass, averaged \$4, amounting to \$23,129. Cheese is not manufactured to any extent, only 6,940 pounds, at an average of 13 cents per pound, amounting to \$920. The aggregate income from milch cows appears to have been, from these statements, \$252,827. This, however, does not include the amounts of these several products consumed in families supported on the farms. This presents an average income of about \$50 per cow.

The number of oxen and steers owned in the district is 1,351, valued at \$101,451. It will be borne in mind that ours is a *farming* district, and yet we have 3,397 horses, valued at \$341,830. I do not propose here to discuss the relative value of horses and oxen as a stock to be adopted by farmers. More than one-half as many horses are included in the district as there are milch cows, but all of these are not the property of our farmers; if they were, this section might well be characterized as one of *horse-farming*.

We can report only 55 bulls of all bloods, valued at \$3,993. Can we reasonably expect to improve the *blood* and quality of our stock with this proportion of one *bull* to one hundred and seven *cows*?

Our farmers have, during many years, *raised* nearly all their swine. The loss by disease has been comparatively small; whereas, from several lots purchased in Brighton, for farms in Southborough and Framingham, in the autumn of 1866, large numbers died of the so-called "hog cholera." I am informed

that the loss to one gentleman amounted to about \$180. To those who have suffered in this manner, a lesson has been given. Should not the pens at Brighton undergo thorough renovation? But the best remedy for our farmers generally, is either to raise their own swine or purchase of a neighbor.

This district comprises in English grass lands, 18,644 acres, yielding about 17,844 tons of hay, or a little less than *one ton* per acre, valued at \$524,535.

In meadow grass lands, 8,787 acres, yielding 7,100 tons of hay, or less than one ton per acre, valued at \$82,802.

The yield of potatoes was from 2,054 acres, 177,958 bushels; being about eighty-five bushels per acre, valued at \$146,928. A large proportion of the potatoes raised are sold in our villages or in Boston market.

We report the turnip, carrot, beet and other esculent vegetable crops at 25,065 bushels, valued at \$11,784.

In market gardening twenty acres, valued at \$28,314.

The cabbage crop was valued at \$12,088—that of onions at \$3,355.

In Indian corn were planted 3,074 acres, yielding 103,000 bushels, valued at \$144,196. This crop, as has well been said, is the *golden harvest of our land*. For man and beast it stands first in the list of cereal plants.

Oats raised on 1,033 acres, gave 24,783 bushels, valued at \$19,942. Grass-seed does not usually take as well sowed with oats as with barley, rye or wheat; still, oats are more generally raised than either of these grains.

The acres in barley were 426, yielding 7,493 bushels, valued at \$9,218. This is an important grain, and should be more generally raised.

But 74 acres in buckwheat were raised, valued at \$317.

The wheat crop only 38 acres produced, valued at \$1,054.

Rye was sown on 577 acres, producing 7,985 bushels, valued at \$12,809. Mixed with other grain, rye is used for feeding purposes to some extent, and is considered excellent for milch cows and swine.

Grapes are not extensively raised, no large vineyards being cultivated. The amount received for this crop was \$24,484.

A few green-houses have been established, from which were sold during the year in plants and flowers, in lettuce and

tomato-plants the amount of \$6,470. This does not particularly appertain to farming, but we think it worthy of mention, and should be encouraged by our agricultural societies.

From fruit of various kinds, berries, &c., we received the amount of \$110,831, of which the apple crop was a small proportion. The number of apple trees cultivated for fruit is 192,487 ; but, I regret to say, these are reported to be generally in a failing condition.

The annual income from poultry appears to have been \$21,841.

I find, by examination, that the crops enumerated in the preceding statement amount to \$1,413,795, of which grass alone is estimated to be worth \$607,327, showing conclusively that this crop forms the principal source of our dependence.

Now, gentlemen, allow me to propose a question. If we should conclude to increase our stock, endeavoring to make the best selections, and consume more nearly all the hay, grain and vegetables raised on our premises, or only disposing of some of these in exchange for some other more profitable supplies for feeding, with a view to increased productions in beef, pork, mutton, poultry, and especially of *milk*, butter and cheese, would not our income from these sources equal or exceed those amounts now received from the sales of so large a proportion of those crops? Attended, as this practice must be, by a very *large increase of manure*, affording to our soil greater facilities of fertility and higher cultivation, may we not well mark the prominent inference that our farms, within a period of seven years, might produce nearly double the present amount of hay, grain and grass, allowing our stock to be increased in the ratio of these productions.

This seems to me an important question for us to decide ; and I hope we may consider it in all its bearings and with regard to our highest welfare.

Somewhat bearing upon this subject, I feel inclined to subjoin to this report the statement of a gentleman residing in Sudbury, Mr. John H. Dakin, with which he has kindly favored me, in regard to his particular management of milch cows, and which I think goes far to show what might be realized from the *five thousand eight hundred and eighty-five cows* included in this district, by proper feeding and management.



I will also subjoin an interesting statement by Mr. G. H. Thompson, of Framingham, in regard to his experience in raising poultry, which has been kindly afforded.

*Statement of Mr. John H. Daken.*

After a trial of the different breeds of cows, I give the preference to the Ayrshire, for a milk dairy. They are hardy, well shaped, of medium size, and give good returns for the amount of food they consume. They are well adapted to our short pastures and long, cold winters. Much depends on the management of cows to make them profitable; gentleness should be observed, and exact regularity in the hours of feeding while confined in the stable, and milking throughout the year.

I keep my cows *in the stable* through the winter, except in pleasant weather, I turn them out a short time for exercise. We commence milking at five o'clock in the morning; and after milking feed with grain, then with hay. After they have finished eating the hay I water them, which will be at about nine o'clock, A. M.; they are then allowed to stand until noon, when they are again fed with hay. They have nothing more until four o'clock, when they are watered and then grained again. At five I commence milking, and after finishing, feed with corn stover. I feed a mixture of rye, corn, and cottonseed meal, about five quarts, and twenty pounds of swale hay and corn stover per day, to each cow. For bedding I use dry sand, preferring it to any other. There is no animal pays better for careful attention than the cow. She should have enough to eat and drink, and be kept clean and warm. The milch cow is more liable to diseases than any other stock, the most troublesome of which is garget. It is easily cured if taken in season. I give one ounce of saltpetre, and wash the bag in warm soap-suds; let the bag dry, then rub on bacon-fat. In a day or two the cow will be all right. I keep twenty-two cows.

I have sold this year, 1866, 5,559 cans of milk,	
which brought . . . . .	\$2,034 36
Twenty calves, at \$3.00 per head, . . . . .	60 00
	<hr/>
	\$2,094 36
Expenses, including hay, grain and pasturing, . . . . .	1,286 00
	<hr/>
Income, . . . . .	\$808 36

I think the manure will pay the labor and interest on the value of the cows, and all other expenses, not in the above account.

SUDBURY, January 1, 1867.

*Statement of Mr. G. H. Thompson.*

I had last January about thirty fowls ; sixteen were Brahma, two Hamburg, six Poland, and about six Sicilians. In April, thinking I had too many kinds, I sold the Hamburg's and Polands. I have bought most of my eggs for sitting of a neighbor, whose hens are nearly full-blood Brahma. I have now eighty-five fowls in all, fifty Brahma, the remainder Sicilian and mixed fowls. I have sold \$69.23 worth of poultry ; and the eggs have amounted to \$81.45, besides those we have used, making \$150.68 ; and the extra fowls, I think, are worth \$50, which is much less than I would sell them for, as thirty-four of them are Brahma, and I have none so small as some I sold for two dollars each, about six weeks ago. Adding the increase of value of fowls, to the amount sold, makes about two hundred dollars ; and I think the eggs we have used will balance those bought to set.

I have not kept account of the keeping much of the time ; but from that kept I think two dollars per week must more than cover the cost for the whole time, which will leave nearly one hundred dollars profit.

FRAMINGHAM, December 17, 1866.

It is a gratifying fact to me and one in which I doubt not all will take an interest and some encouragement, that I am able to report a large increase of blood-stock over the returns of last year. Of this class, I find one hundred and sixty-four, many of which among the different breeds, are very superior animals.

JOHN JOHNSON, Jr.

FRAMINGHAM, January 1, 1867.

This Report having been accepted, the following was submitted on the

## AGRICULTURE OF WESTERN HAMPSHIRE.

BY M. F. WATKINS.

The Highland Agricultural Society held its annual exhibition at Middlefield, Hampshire County. The charter granted designed to embrace that portion of Hampshire, Hampden and Berkshire Counties in a degree remote from other societies.

The towns in proximity are Washington, Becket, Chester, Worthington, Peru and Hinsdale. The majority of members reside within the circle mentioned, yet there are many in towns more remote.

The geographical survey represents a district mountainous and broken, with high ridges, deep, narrow valleys, and abundant streams created and fed by crystal springs from a thousand hills. The soil is various, it being peat, muck, loam, sand and gravel, black and yellow loam predominating.

This district is naturally adapted to grazing. Ourselves, content with Nature's plan, have yielded cheerfully to the special requirements of the locality where our good fortunes have placed us, and never attempt to cultivate the soil only in a limited manner. We spend but little strength ploughing and hoeing, or sowing and reaping. Nature has done our sowing; our domestic animals do, to a great extent, our reaping.

The average size of our farms would be about two hundred acres. The amount tilled is nearly as follows: One acre of corn, two of potatoes, three of oats, buckwheat and barley; sometimes a few rods of carrots, turnips, beans or pease; the aggregate amount being six or seven acres to each farm.

The corn crop is considered a paying crop only upon a small scale; as we increase the amount beyond what we can manage very nicely, we decrease the profit. The potato crop is far more remunerating, and attended with much less expense. The fact that our farmers raise two acres of potatoes as often as one of corn, is sufficient proof that the potato crop pays best.

The average yield of potatoes per acre is about 150 bushels; the average selling price about fifty cents; amounting to \$75. The average amount of corn per acre, 40 bushels; selling price, about eighty cents; amounting to \$32. The average crop of oats and barley is about 30 bushels.

Our meadows embrace that portion of our farms which has the smoothest surface and is easiest of access. Two-thirds of

our meadows have never been ploughed. Some of our best farmers are sanguine that ploughing good natural grass land is malpractice in farming, and recommend that we avoid ploughing such land as long as possible, applying the manure upon the surface in the month of August or September. One-fourth has never been blessed with a dressing of manure, but is mown once a year; and, I am sorry to add, is generally fed by stock through the fall, which, in my opinion, is very injurious, and contrary to the true principles of successful farming.

The amount of hay grown upon an acre is from one-half to three tons, varying to correspond with its management. A small amount of our hay crop is sold, nearly all being consumed upon the farm. Our desires are best satisfied when we have an abundant crop of grass, as we rely upon this crop for cancelling the mortgages from our farms.

Our pastures are rocky, rough and broken, not generally susceptible of tillage; consequently what we do to regenerate their productive capacity, aside from underdraining, must be applied to the surface. Included in the fields we pasture is considerable waste land, that at present would not pay for reclaiming, which is left to the tender mercies of nature, and our stock that roam over it.

Ninety out of one hundred of our farms have woodland sufficient to furnish wood and lumber for home consumption. Fifty out of one hundred have a surplus, by which our villages, manufacturing and railroad corporations obtain an abundant supply. Large amounts of wood and lumber are yearly transported from our hills to the nearest railroad station, and instead of the majestic forest, we have the cash proceeds at our disposal. Much of the farmer's time in winter is spent in this business, and frequently a part of his capital has gone with his time and woodlot without any favorable realization.

One-half of our farms have a sugar-orchard, which is used to a greater or less extent. The amount annually produced within the towns mentioned is about one hundred and twenty thousand pounds, which has been an item to us worthy of notice for a few years past. The making of maple-sugar in March and April, is a business that comes at a season of the year when we can neither be engaged in lumbering nor farming, consequently the time we devote we can spare as well as not; the

wood we consume is usually of inferior quality ; therefore the thousand pounds of sugar the farmer produces costs him really but little, and adds much to his comfort, it being not only a necessity, but a luxury, which we would not willingly forego.

Some of our farmers keep no stock, scarcely, but fine-wool sheep. Instead of the style of sheep kept here twenty years ago,—fleeces weighing only two or three pounds per head,—we have improved our flocks by introducing the Vermont Merino, and the weight of our fleeces now is about four pounds each, which has increased the net profit more than fifty per cent. There is chance still for improvement, as is plainly shown by some of our best flocks producing five and six pounds per head instead of four.

This Vermont Merino investment is all that saves us from being compelled to abandon this favorite pursuit, owing to the nominal cost of growing wool in the West and South-West. There is no stock so easily managed, making so little trouble, summer and winter, as the fine-wool sheep. The coarse-wool sheep receive very little attention with us, yet there are some excellent specimens of the coarse-breeds.

Some of our farmers owning large pastures, buy in the months of March and April from fifty to one hundred farrow cows, or a corresponding number of three-year old steers, turning them upon the pastures as soon as there is abundant feed, where they remain until an Eastern purchaser appears, buying the lot, usually in the month of July, reserving the privilege of taking them in lots of ten or twenty at once, to suit his convenience. Some of our farmers have made small fortunes in this business within the last ten or fifteen years.

Some of us milk cows every night and every morning, Sundays and rainy days not exceptions. Some make butter, some only cheese ; others, more skilful, manage to obtain both. Here I would drop a tear for the Eastern consumer. There is but one or two milk carts within my limits. Others keep a few extra breeding cows, always raising the calves from a respectable sire, compelling them to grow rapidly and mature early ; if two or four happen to be steers, they are broken to work, and trained to appear well when a purchaser comes into the yard.

The majority of our farmers keep a variety of stock,—a few cows, some steers, some sheep, two or three colts, swine, geese

turkeys, chickens and bees. This class are, perhaps, most successful ; it may be for natural reasons. The bee gathers honey abundantly from the wild flowers upon our mountains ; our poultry not only glean the fields of the little grain we scatter in harvesting, but are destroyers of myriads of insects, which, if not destroyed, would be destroying the crops we so carefully husband.

Our sheep are greedy to get that which the horse utterly refuses to eat, while the colts thrive nowhere so well as when they are allowed to pick their rations from the sheep-rack, readily accepting that which the sheep rejects. A variety of stock in the same pasture as well as the barn seems desirable, if we would save all and let nothing be lost.

In all the different pursuits of agriculture, I am happy to state, there is manifest progress among us. Our dairymen boast of Dr. Loring's and William Birnie's Ayrshires. Our beef-makers show you the descendants of the herds of Thorne, Lathrop, and others. Our working oxen refer you to the former stock of S. & L. Hurlburt, while our young horses are claimed to be the lineal descendants of Justin Morgan.

We have the Berkshire, a sprout from old Black Hawk, owned in Becket, which is the popular sire of many of our young horses. Also, General Grant, of Hamiltonian stock, owned in Hinsdale, having recently come to us backed up with strong credentials. He is considered a horse of great promise.

Not satisfied with the ways of forty years ago, we have begun to reclaim swamps, underdrain our meadows, dig and remove the rocks, using our horses for mowing and raking, instead of ourselves, consequently finding time to attend farmers' clubs, festivals, cattle-shows, and to read Flint's Agricultural Report, building better and more commodious houses and barns, doing more to beautify and ornament our homes.

We have to-day, instead of the light fleece Saxon sheep, flocks of high-bred Spanish Merino, with an occasional sire, carrying a twenty pound fleece upon his back. In place of the Old Bakewell, we can show you samples of the best South Downs and Cotswolds the country affords. Instead of the native cattle, poorly fed and bred, without care or forethought, we produce animals bred with careful study, well fed, that are not beat at our glorious New England fair.



We are proud of such stock, but prouder by far of the men whose intelligence, energy and enthusiasm, have prompted them to engage in so laudable an enterprise.

Our climate is healthy, our homes are happy, our inhabitants strong and industrious, faithful to their families, honest in dealings, temperate in habit and true to their country ; blest with noble sons, virtuous daughters, a clear conscience, a contented mind and a reasonable hope for fourscore years and ten.

M. F. WATKINS.

This Report was accepted, and the following was presented on the

#### AGRICULTURE OF BRISTOL.

BY AVERT P. SLADE.

In accordance with the vote of the Board, I herewith submit such facts as occur to me in relation to the agriculture of Bristol County. The agriculture of Bristol County presents as great a variety as can be found in any other county in the State. While no particular crop is made a speciality, grass, corn, rye, oats, barley, potatoes, turnips, and a creditable variety of fruit may be found on almost every farm in the county. A marked improvement in farm-husbandry is evinced by the earnest efforts almost universally made, not only to increase the quantity of manure, but to improve its quality, and also by the more careful and judicious manner in which it is applied to the growth of crops. A few years ago and the entire droppings of a stock of cattle during winter were thrown out by the side of the barn, to be washed by the rains and to be dried by the sun, until the fertilizing properties were thoroughly extracted and spirited away by the winds of heaven. Now almost every barn—every new one, at least—has a cellar, which is made to receive the droppings of the cattle, together with a liberal supply of muck, loam or sand, which the hogs very readily and effectually convert into excellent manure. The refuse of cities and large towns is eagerly secured and hauled to the farm, leached ashes by the cargo are brought from Maine, Long Island and Northern New York, and large sums are annually spent for concentrated fertilizers.

Since the high prices of labor, our farmers seem to have made the discovery that a large crop is more profitable than a small one. There is no county in the State—perhaps not in New England—that is furnished with better or more convenient markets than Bristol County. The surplus produce of all kinds finds a ready sale at good prices in Fall River, New Bedford, Taunton and Providence. The increased demand in these cities and large towns for agricultural products has no doubt stimulated the farmer to produce the greatest possible amount of such crops as he thinks will pay the best. It has also given rise to the important inquiry, viz., What crop, all things considered, will yield the greatest net profit?

Less ground is cultivated than formerly, with more manure and cleaner culture. The result, of course, is better crops with less expense.

A marked improvement in the modes of cultivating and harvesting crops is visible in all parts of the county. The scarcity of labor during the late war has forced into very general use almost every implement calculated to facilitate the operations of agriculture. Owing to the unprecedented drought in the autumn of 1865, followed by an unfavorable winter, the English hay crop the past year has been unusually light, estimated at two-thirds of an average crop.

Statistics would seem to indicate that this crop has been gradually growing less for the last six years, and it may not be improper to briefly allude to the cause. From 1845 to 1860 our farmers appeared to have a perfect mania for converting bush pastures and low meadows into English mowings. This was effected at a moderate expense. The land was cleared, surface-drained, ploughed and harrowed the first season, and on the following summer the roots and stones were removed, and the plough and harrow were used until the soil became thoroughly pulverized, when it was heavily seeded with redtop, fine-top and timothy. About fifty barrels of menhaden fish were scattered broadcast at the time of seeding, which generally insured two or three heavy crops of good English hay.

About once in two or three years, it was found necessary to renew the application of fish, not only to keep up its productiveness, but to sustain the quality, for in such lands the English grasses tend to deterioration. In this way thousands of tons of

English hay were annually produced on lands which had formerly been considered worthless.

Fish could be had at the beach in large quantities at from fifteen to twenty cents per barrel, and about the only thing requisite to insure a crop, was to "fish the meadows." In 1860, this game played out. The discovery that a barrel of fish would make three gallons of oil, created a demand for them at one dollar per barrel, a price which farmers thought it impracticable to pay. The result is that many of those meadows have been abandoned as such, and are now used for pasture, while others are still mowed, producing a light crop of inferior quality, well mixed with brakes and bulrushes; and a few of them by frequent top-dressing retain their original productiveness.

In point of economy, we have been unable to find a substitute for fish. The loss of this cheap and important fertilizer, which has entered more or less extensively, into the production of almost every crop, during the last forty years, has led not only to the extensive use of the various specific manures, but to a more prudent husbandry of the resources within our reach, for improving and enlarging the compost heap.

The corn crop, as also the hay and potato crops, during the last year have suffered severely from the ravages of the *cut-worm*. Fields which in the early part of the season, promised an abundant harvest, yielded but an indifferent crop. The potato crop was far below the average, and suffered materially in appearance from the contributions levied by this invading legion.

The crop of hay, particularly in the northern part of the county, succumbed to their blighting influence, and hundreds of acres consequently had to be ploughed and reseeded.

Market gardening is carried on quite extensively to meet the increasing demand, and where the market is near, and the soil is suitable, is very profitable business.

The onion crop is yearly increasing in importance, it being one of the very few, of which there is a surplus raised in the county. The crop of 1865, as shown by statistics, was 24,700 bushels, 10,500 of which was raised in the town of Somerset.

The crop of French turnips was of excellent quality, and exceedingly large, estimated by good judges to be double that of last year, which would make the crop of this year something over 200,000 bushels. Although it is generally believed that

this is a very exhausting crop, yet farmers are slow to abandon it. Our soil and climate seem to be specially adapted to their growth ; it is easily raised, requiring attention when most other hoed crops are out of the way, and yields a greater net profit than any other which admits of planting so late in the season.

I have been unable to collect any statistics in regard to blood-stock. An earnest desire however seems to prevail among our farmers generally, to improve their stock, and the most of them have so far "conquered their prejudices," as to be willing to pay liberally for the services of a thoroughbred bull. Some attention is given to the feeding of oxen for beef. This has been done very successfully, if not always profitably. A pair fed by Mr. Jonathan Slade, of Somerset, compared favorably with the *best*, exhibited at the New England Fair at Concord. Mr. Israel P. Brayton, of the same town, is now feeding an ox raised by himself, whose weight is 3,500 pounds, and is perhaps the best ox in the State, if not the best in New England.

AVERY P. SLADE.

This Report was accepted.

On motion of Mr. DAVIS, the following preamble and vote were adopted :—

*Whereas*, The State Board of Agriculture is of the opinion that the legislature intended, in return for the bounty granted to the agricultural societies by the State, that the societies should, by their printed reports, as well as by other means, furnish to the people valuable information concerning the subjects for which premiums are offered by them ; and

*Whereas*, Their reports are generally deficient in this respect, owing principally to the neglect of committees in elaborating their reports to the societies by describing more fully the objects in competition, the reasons of success or failure ;

*Voted*, That the several agricultural societies receiving the bounty of the State, be required hereafter to offer, annually, *three premiums* of not less than eight, six and four dollars, respectively, for the best reports of committees who recommend the awards of premiums.

A Report was then submitted upon

### THE DAIRY.

BY H. A. HUBBARD.

The product of the dairy in its various forms, whether it be milk direct from the cow, cream, butter or cheese, constitutes a great luxury, furnishing, moreover, a large part of the sustenance for the support of the human family. Besides this, in many localities, it constitutes the principal revenue from the farm, which renders it a subject of no ordinary interest to the farmer.

The great question that interests the dairyman is,—In what way can I dispose of the product from my cows with the least amount of labor, and at the same time be the most remunerative? This depends somewhat upon the locality of the farm. If it is where the milk can be taken directly from the farm to market, and the whole product be disposed of, no doubt this is the most profitable disposition that can be made of it. But in many localities there is a failure to do this. If it is not disposed of in this way, it is either condensed or manufactured into butter or cheese. To direct attention to any one of these modes exclusively, would not be wise. This will be somewhat regulated by the supply and demand for each.

For a few years past the attention of the Massachusetts farmer has been directed more particularly to cheese-making, and the best and most economical mode of manufacture, and one also that will secure better returns to the dairyman. In April, 1864, the first cheese-factory went into operation. At the present time there are no less than twelve that are in successful operation, viz.:—Two in Barre, two in Hardwick, one in Petersham, one in Warren, one in New Braintree, one in South Adams, one in Blandford, one in Westborough, one in Wilbraham, and one in West Brookfield. The last-mentioned one is more particularly a condensing factory, the surplus milk only being used for cheese-making. This number of factories will no doubt rapidly increase.

The mode of operation with the several factories in the various processes, from the time the milk is drawn from the cow until the cheese is ready for market, may be of some interest as well as profit to all who are in any way interested in the dairy.

I will not, however, attempt to give all of them, but selecting the one I am most familiar with, will give its various processes. The milk is taken to the factory on the morning of each day, (Sundays excepted.) Saturday night's milk is taken to the factory at night, and made into cheese, except the cooking process, which is done Sunday morning. This saves almost the entire labor of the Sabbath. The Sunday morning's milk is cooled and kept till Monday morning. The milk is strained into three-gallon cans and cooled each day before it is taken to the factory, as it is found to be better to remove the animal heat from the milk as soon as possible after it is drawn from the cow. The milk is again strained at the factory into tin vats, capable of holding six hundred gallons. Care is always taken that every article used should be perfectly clean and sweet. When the milk is all in, steam is applied, and the heat raised to eighty-two degrees, when the rennet is put in, also a small amount of coloring, to give the cheese a rich appearance. And here let me say that much depends upon the rennets, and their preparation, for it is impossible to give the cheese a good flavor if this is not carefully attended to. The strength of the rennet, and the quantity to be used is ascertained by trial. The milk should be thoroughly stirred before the rennet is put in, so that the cream may not separate from the milk, and also after, until it shows signs of coagulation; then cover up and let it stand from fifty to seventy minutes, when the curd is usually hard enough to cut. Enough rennet should be used to have the milk show signs of coagulation in about fifteen minutes. Cut the curd, first, lengthwise of the vat with a gang of steel knives, and then let it stand till the whey separates and nearly covers the curd, then cross the curd in the same way, and apply the heat, working the curd with the hands. Work gently at first, in order to retain the richness of the cheese. Heat to 88 or 90 degrees, then cut the curd about as fine as shelled corn. After cutting, draw off about half the whey, and stir again, and heat to 96 degrees, or 98, if the weather is cool. Stir the curds gently with the hands while heating, and until the temperature is even through the curd, then cover, and let it stand until hard enough to dip out and salt, which is from one to three hours, according to the weather and condition of the curd. Use two and one-half pounds of salt to one hundred gallons of milk.



After salting, put into the hoops, and let it stand a short time before pressing. Press lightly at first, and from one to two hours before bandaging. Press two days, if possible, and then remove from the press to the dry-house. Trim and dress the top and bottom. Let them remain several days before dressing the sides, to let them dry and prevent moulding.

To facilitate the turning and care of the cheese in the dry-house while in their curing process and preparation for market, they are placed upon ranges having two pieces of scantling placed at a distance of twelve or fourteen inches, and the cheese placed upon a cover like that of a box, and when turned another is placed upon the top of the cheese, so that it is turned without raising the cheese entirely; the bottom cover becoming the top one, is used for the next cheese, and so continued for the entire length of the range. The cheese remains in the dry-house from thirty to sixty days, and sometimes longer, according to the state of the market and the wants of the purchaser.

The larger part of Massachusetts cheese is sent to Boston market, although some is sent to New York, or to supply the smaller markets. Large quantities are shipped to foreign markets, and the demand for American cheese in Europe is steadily increasing; and it is said by Mr. Willard, (the agent sent to examine the foreign markets and collect information that would be of service to our American dairymen,) that there is at the present time no cheese in the English market that stands higher in the estimation of the consumer, or commands a higher price, if we except the cheddar cheese.

Cheese by many has been considered simply a luxury, while they would allow milk to possess very nutritive qualities. Is it not true that cheese retains these nutritive qualities in a very condensed form, and becomes an economical article for food as well as a great luxury?

I have spoken of the vats in which the cheese is made. These are made of tin; and the ones I spoke of are of the capacity of six hundred gallons, placed in wood vats, with a space between large enough to place iron pipes one and one-fourth to one and one-half inches in diameter. This space is filled with water, and steam is forced through them to heat the water, which heats the milk and the curd in all its processes before it goes to press.

From the reports of last year, it appears that on an average a little over ten pounds of milk were required for one pound of cured cheese ; and from what experiments I have examined, not far from twenty-two pounds are required for one pound of butter. These experiments on butter must have been under favorable circumstances, as it usually requires more milk for a pound of butter. With these figures and the prices of butter and cheese the past season, there would seem to be a preponderance in favor of butter. But there are more difficulties attending the manufacture of butter the entire season. We have as yet only one butter and cheese factory in Massachusetts, and that is in Westborough. I have no definite reports, but from what information I have, am led to the belief that the butter part has been a success ; and the failure of cheese a part of the season was more a want of skill in the manufacturer than from any other cause. Mr. Willard, of New York, in speaking of butter and cheese factories, says some have proved highly successful, while others have failed ; but that their failure was more a want of skill in their management than from any other cause.

Under the common dairy system, or mode of cheese making, it was more a matter of luck than otherwise, there not being an exact system by which it is managed in its various processes. Under the factory system it is reduced more to a science, the whole operation being carried on by exact rule, to be varied, however, according to circumstances, such as the weather, it requiring a little more salt when the weather is very warm ; and sometimes hurried through its different processes quicker than at other times, owing to the condition of the milk. This must of course be regulated according to the judgement of the operator.

By examination I find there is a great difference in the product of different dairies, per cow ; varying from forty to fifty-two or three dollars per cow, for seven months of the year. Some dairies averaged as high as seventy dollars per cow for the entire year ; milk being sold when cheese was not made. There are reports from New York dairies that run much higher. But from our own reports we are led to the belief that farmers suffer great loss by not being more careful in their selection of cows. If the income from one cow is thirty or forty dollars per year, while another on precisely the same keeping reaches

the sum of seventy or eighty, and sometimes much higher, it is very evident that it is the part of wisdom to prepare for the shambles the inferior dairy cow, and supply her place by one that will yield better returns. It is difficult to accomplish this at once, but with sufficient care there may be a great improvement in that direction.

Three factories, South Adams, Hardwick and Warren, have made 838,535 pounds of cheese the past season. The other factories have not yet reported.

I cannot give as many returns as I would like, showing the relative value of milk for the different purposes for which it is used. I will give the result of 371,892 gallons: 201,073 gallons were sent to market, and 170,828 were made into cheese. The result was that the milk sent to market brought \$31,753.94, or \$0.1579 per gallon.

This was \$0.0192 per gallon better than the returns for cheese in the same town. This is based upon the entire year. But if we take the time the factory was in operation (seven months,) the milk brought for cheese \$0.0096 per gallon more than the milk for market. This does not include any income for the whey, which is estimated at from four to six dollars per cow. In this case the balance would be in favor of cheese. But, as I have said before, all cannot turn their attention in the same direction.

NEWTON S. HUBBARD.

THOMAS BILLINGS.

The above Report having been adopted, it was voted to appoint a committee of three to consider and report upon the application of the Nantucket and other societies, for a change of time of holding their exhibitions. Messrs. Davis, Slade and Watkins.

This Committee subsequently reported to fix the time of these exhibitions

The Norfolk to begin September 19.

The Bristol Central to begin September 19.

The Nantucket to begin September 25.

The Report was accepted, and the time so fixed respectively.

TUESDAY, February 5.

The Board met at 10 o'clock, A. M., Mr. SMITH, of Sunderland, in the chair.

An Essay was submitted and read on

## PASTURE LANDS.

BY JOHN JOHNSON, JR.

The management of pastures presents a subject of peculiar interest to every farmer. Grazing forms the most profitable and important department, but hitherto the most neglected of any on the farm.

Urgent inquiries are constantly heard from every part of the State in regard to pasture management, with the universally acknowledged fact that they are becoming, in a sad degree, exhausted and unproductive.

Our first endeavor should be to discover the causes upon which this deterioration depends; and having ascertained some of the more important of these, we can the more readily decide upon the most judicious course to pursue to insure a restoration of our pasturage to former productiveness.

One great cause of this impoverished condition is attributable to improper cropping and overstocking; thus constantly carrying away those elements from the soil necessary to the formation of bone, flesh and milk, while no adequate equivalent has been returned.

While the sunshine, air and rain constantly contribute largely toward securing a plentiful harvest, without the aid of an abundant supply of materials, similar to those which have been taken up from the soil, through vegetation in large measure, into the products of flesh and milk, these must be comparatively ineffectual.

No soil can long withstand close and continual cropping. Evidently by this process it is overstrained, and, at length, must become exhausted in those essentials which serve directly as nourishment for the growth and maintenance of the innumerable roots, leaves and seeds, of the various grasses.

The soil has thus generously parted with its salts in the production of vegetation, to supply the demands of grazing millions, dependent upon it for life and sustenance. In affording this incalculable supply, its stores in sulphates, nitrates and

phosphates, have been largely exhausted ; and, in order to reanimate its now slumbering energies, and renew its fertility, these must be restored.

We know that potash, soda, magnesia, lime, phosphoric and sulphuric acids, enter largely into the composition of grass. These, then, should in needed measure, be combined to form some of the essential restoratives which we must endeavor to supply to the soil when this important crop deteriorates.

In the use of certain proportions of unleached ashes, common salt, bone-dust and plaster, this object may be in a great degree attained. I would not say that it is, in any case, absolutely necessary to supply all the constituent principles of grass to the soil at *one and the same time* ; for we know that the earth is a great store-house and laboratory, in which important chemical changes are constantly taking place, producing the various combinations which enter into vegetable life ; and that she is furnished more abundantly with some of these essentials than with others ; and hence her need of an artificial supply of some one or more of these will soon occur. But I would say, that in so far as she becomes exhausted or weakened, in any considerable measure, in any of these materials, they must be promptly and efficiently restored by the hand of art and science.

When we remember that every blade of grass that grows takes up a certain portion of these substances from the soil, and consider the innumerable millions that have been nourished through more than a century, and are now growing, it becomes obvious, and needs no argument to show, that, if she is not proportionately compensated, vegetation must necessarily famish, and man and beast, so far as they depend upon this production, suffer immeasurably. We should not forget that nature is never false to us, nor stingy in her products ; but, with the necessary supply of food for her operations, she will abundantly satisfy every reasonable demand.

Another fruitful cause of this deterioration is found in allowing brush-wood and brambles, foul grasses, and various noxious herbs and weeds to mature and scatter their seed over the land, which, taking root, have finally become the prevailing growths of the field. These must be entirely exterminated, root and branch, as they overpower and destroy all the finer, more deli-

cate and desirable products, as we know they have already, on the face of many a once fair pasture.

For convenience, in speaking more particularly of the treatment of pasture lands, I will divide the subject into three classes, namely: high hills, easy rolling, and lowlands. What might be considered good husbandry for the one, could not be practised on the other. Many of our high hill pastures abound, more or less, in those foul and sour growths to which we have alluded.

Our first effort towards the improvement of all embraced in this class found worthy of being continued for grazing, is to get rid of those detestable and poisonous over-growths. How this shall be accomplished depends entirely upon location, the surface, character and nature of the soil. Many of these hills are very stony, and of such rugged and steep inclination that it is impossible to subdue them by the plough; therefore, we must adopt some other method. The first course suggested to my mind is that of stocking with sheep. Personally, I have had but little experience in sheep-husbandry. I will, however, state one fact which occurred on my farm.

A few sheep were purchased in mid-winter, and in the spring turned out with the usual increase in lambs, upon a small lot which had a large growth of briers on different parts, cut in the autumn previous, and a large, unfruitful grape-vine trailing on the ground. In a single season the sheep destroyed every vestige both of the briers and vine.

I have made some inquiries of those who have turned their attention to sheep-husbandry, and the testimony is that they exterminate all bushy growths more effectually than any other means employed.

In my boyhood, sheep were kept on farms to some extent in Framingham; and for many years after the sheep were abandoned and cattle substituted, not a bush or wild plant was seen, but only a beautiful and luxuriant growth of grass adorned those pasture grounds, so effectually subdued and enriched by sheep alone. Those pastures, from neglect, are now sadly changed in appearance and productiveness. Instead of fine, nutritious grasses, once their pride, they now present an over-growth of wild grass, bushes and moss.





I do not propose to discuss the question whether sheep may be profitable for our farmers to keep for mutton and wool, either in this or any part of the State, but as a means of reclaiming such pastures as cannot be subdued by that great subduer, the **PLOUGH**.

From long experience it is evident that mowing bushes will not eradicate them. That we may obtain the necessary feed for our stock in summer, and that our pastures may not become a wild, the bushes and other improper growths must be cut as often, at least, as once in two years, which, at the present high price of labor, will cost from four to six dollars per acre; or from two to three, if mowed every year. If we *only* mow, we must *re-mow* during our lives, and our land becomes no richer by the use of the scythe; therefore we shall leave a worthless inheritance to our children, and the more of the like we leave, the poorer will they be, if our example and footsteps are followed by them.

If we conclude to lay the scythe aside, but are still determined to *subdue*, while we *cannot plough*, our resort must be to the **HOE**. When this instrument is used, the roots must be cut about two inches below the surface of the ground. This will effectually destroy the shrubs. Having cut the bushes and other similar pests in this manner, and burned them, select a day just previous to a gentle rain, if convenient, applying some of the fertilizing agents mentioned, and re-seed, using a harrow for the purpose, if possible. This method for small patches, at least, will be found a profitable means of subduing and improving some lands.

Many of our pastures might be much improved by receiving a new supply of grass seeds of the best varieties; and this, in many instances, will be absolutely necessary to obtain, by the application of fertilizing combinations, a satisfactory result.

The use of the hoe for large tracts of land would be rather expensive, but far better and cheaper in the *end* than the everlasting and inefficient operation of the scythe.

But will not sheep be a far better and still cheaper means than either of those instruments for the farmer to employ? At the present time sheep may be purchased for from two to five dollars each; and this quality will be as effectual for mere purposes of subduing pernicious growths as those costing much more.

From five to seven sheep may be pastured on the same amount of ground required to keep one cow ; she will never destroy the growing bushes nor prevent others from springing up. But turn out the five or seven sheep instead, and within five years, our bushy pastures, nearly worthless now, might become flourishing and valuable as in former times.

Sheep thus employed as substitutes for the scythe and hoe, which latter scatter no fertilizing products behind, are vastly more ready subduers, and, at the same time, leave a large amount of manure of superior excellence. Even the very plants and shrubs we seek to destroy by this means are converted largely into this valuable substance for the growth of the grass we need. Thus our pastures, many of them, may be made luxuriantly green and velvety as those lawns surrounding your dwelling-places.

May not this desirable object be accomplished by much less expense in the use of sheep than in any other manner, considering they will produce a few pounds of wool yearly, and a lamb or two each, the profits of which will nearly equal the product of a poorly kept cow, and this at no cost for mowing or manuring the land ?

Irrigation is another method which may be adopted for the improvement of some pastures of this class, or any other favorably located, and needing moisture at certain seasons. This may be attained by the construction of a suitable reservoir at the most convenient point, with a conduit laid to discharge the water, accumulating within from rains from time to time, into a furrow leading along into other furrows running in somewhat parallel directions around the hillside. These furrows may be furnished with small outlets here and there, in a manner to distribute the water evenly as possible over the entire surface, thus securing an invigorating source of moisture to the soil in dry seasons, and those elements of fertility held in watery solution. The whole expense need be but trifling—only that necessary for the preparation of the excavation, the erection of a slight roof to conduct the water into it, and for laying the conduit and furrows.

Our moderately hilly or rolling pasture lands are usually our best and most fertile grazing grounds. These, except in rare instances, should never be broken by the plough, breaking up impairing their value.

This class are generally quite free from bushes and other foul growths prejudicial to fertility, and no particular complaint may be offered in regard to them, except they are in an unproductive state, some of the causes of which have been already hinted.

Should there be found on the surface of any of this class patches of bushes, wild grasses and brambles, more or less numerous, these should receive the same treatment previously recommended for such cases whenever they occur.

Here I would remark in general, that, for some of our cold, wet pastures, sloping northerly and westerly, upon which the influence of the sun is but imperfectly felt, some form of drainage might be beneficial; and it has been stated by some careful observers that the effects of *gypsum* are more decided on slopes of this character and inclination.

Shade trees are desirable on all pasture lands, both as an embellishment to the grounds and comfort to herds and flocks. These should be allowed to stand, or planted when none are growing, on the highest or least productive portions.

Some pastures included in this class might be benefited by harrowing the surface in early spring time, and scattering some seed anew, with the application of some fertilizing materials in form of dust or compost before indicated. But generally this class require only a fresh supply of seed scattered over them on the snows of spring, with an occasional dressing with appropriate compounds, together with rest once in awhile for a season. This course, with fair and judicious stocking, will insure an ample reward for our labor and outlay. Nor would just the amount of increase in grass thereby furnished for our animals, the profits of which we should receive in flesh and milk, be all the extra gain derived from this changed condition; but our stock would become permanently improved and their value enhanced, while, at the same time, their manurial products scattered over these acres, or accumulated for use on other lands of the farm, would be proportionally increased in quantity and quality; for the richer the food consumed the more highly nourishing to plants are all the excrements derived therefrom.

Judging by their management, many seem to think that manure is all the same from whatever kind of food derived, all the difference being that which distinguishes its animal sources, as from horses, neat stock, sheep, swine, &c., whether from

healthful, fleshy, comfortable creatures, well cared for and fed, or from poor, miserable, half famished, neglected specimens. But this is a mistake.

If our pastures are enriched by affording the requisite elements for an abundance of highly nutritive grass required for the finest and highest development of our animals, a large proportion of the excellence contained in the food supplied will be found in the manure, and this must necessarily be of much greater value than that can be from animals grazing upon neglected pastures affording but a limited amount of that richness of nourishment conducive to vigor and strength. How important, then, in every point of view, that we turn our attention immediately to the renovation of our grazing lands, and adopt some new and more successful methods of improvement, those hitherto practised having nearly exhausted and ruined all; and especially when we reflect that without flourishing, fertile pasturage our herds and flocks, of whatever BLOOD, must inevitably languish and cease to yield a profit, while our farms, in other departments, must also deteriorate.

Lowlands may require a different treatment from either of the classes mentioned, but all have many demands in common. Those in this class overgrown with moss, coarse grass, ferns and and rushes, in root and in surface-soil most difficult of decomposition by the usual methods, and having a cold, insoluble base of clay, should be treated by a course of deep drainage, paring and burning, thoroughly harrowing, lightly manuring, spreading evenly the ashes over the surface, and seeding with those varieties of grass most desirable. This course may be adopted with the assurance of great success.

Ploughing and thorough cultivation, seeding in the usual manner, may be attended by similar good results; still I incline to the adoption of drainage, paring and burning as offering the best and most certain mode of subjugation of this variety, and the entire destruction of the seeds and roots of every mischievous growth by which it has been infested.

On smooth lowlands, producing already the desirable varieties of grass, some finely-prepared barnyard manure spread evenly over the ground, or the occasional sowing of some fertilizing agents recommended, will insure abundant and satisfactory crops. To practise a system of the rotation of crops on some of

these lands might be, perhaps, attended by greater profits than stocking all of them permanently to pasture. It must be borne in mind, however, that in pursuing this system, rest, at least, during one year in five, is considered important, and that more labor is required, and a greater outlay in manure. But we must be guided in our management by the surrounding circumstances.

In all cases appertaining to seeding lands for pasturage, we should determine, as far as possible, for what use they are more particularly desired,—for fattening or for dairy purposes; because experience and observation have taught that the same pastures or variety of grasses do not produce meat and milk with equal facility.

The practice adopted by many farmers of mowing lands for the hay-crop, during two or three years immediately subsequent to stocking with grass, but intended ultimately for pasturing, is, in my judgment, highly prejudicial, and should be abandoned, devoting them from the first strictly for grazing.

Our newly-seeded grounds for pasturage should be cautiously fed, always endeavoring to leave some grass for seed, and a sufficient growth near the surface for the protection of the roots during seasons of drought, and from the destructive frosts of winter. Indeed, who does not know that a pasture, stripped of all its vegetation, and fed, as is often the case, so closely as to loosen many of the grass roots, will the next season produce but a small allowance of feed; but that, with prudent cropping, will yield an abundance of luxuriant food.

With wise and careful management in this respect, and with a sufficient quantity and a good quality of gypsum sown per acre, occasionally, as required, or its equivalent in weight of some other sustaining and invigorating agent of fertility, will preserve the productiveness of our naturally good pasture-lands to the end of time; and, certainly, for those having less of the original elements of vitality and energy, this peculiar caution and care is all the more essential.

In 1849, I purchased a small farm, divided, as usual, into pasturing and tillage. One pasture, containing five acres, sloping gradually north-easterly, with a gravelly soil abounding in small stones, was inclosed by a stone-wall and situated on the highest point of the farm. It was completely overrun by small

bushes, blackberry vines, sweet fern and other foul growths, and generally known as "*Checkerberry hill*," checkerberries being its chief product.

In June, 1850, I ploughed it, employing four oxen and three men, completing the work in about twelve days. In September following, with the same team and the labor of two men, it was thoroughly harrowed by the use of the large harrow required for seeding land from which a recent growth of wood has been taken. In this condition it remained until the next spring, when I ploughed it again with one yoke of oxen to a plough, harrowing with a common harrow, and planted with potatoes, using nothing but good plaster in the hills, the rows being nearly four feet apart. The potatoes received one thorough hoeing with the breaking-up hoe, no plough being used. For the crop harvested I received more than two hundred dollars, retaining a quantity for home use.

The land was then ploughed and thus remained until spring, when again it was first harrowed and then ploughed once for the season, but no crop was taken from it. The spring after, it was ploughed and harrowed, the stones gathered to some extent into large heaps on the ground, and seeded to oats with the usual varieties of grass-seed, and a sprinkling of white clover. The oat crop was a complete failure; so much so, that I did not spend time to harvest all of it from the field. In the autumn I finished gathering the stones, which in all were estimated at five hundred ox-cart loads.

In the autumn the field presented a large and flourishing growth of grass, which was not fed, but suffered to remain on the root.

In the following spring it showed a thick and promising growth of red and white clover; and in June I turned my milch cows upon it to graze, but avoided close feeding, which practice was continued.

This pasture remained very productive in grass until four years ago, when, finding myself with a largely increased stock of milch cows, I departed from the *rule*, and suffered *close* feeding for two years in succession. Observing that my pasture was faltering, I immediately adopted, in a measure, the system of rest, by which I hoped, in some degree, to restore it to former productiveness.



I am fully of the opinion, that, for the space of four years, I have not received one dollar for the extra stock kept during the two years of close cropping mentioned, to say nothing of the reduced condition of the pasture.

I am confident that highly fed milch cows yield a large income, and are a source of profit ; whereas, from those poorly kept a *small* income and no profit is received.

JOHN JOHNSON, Jr.

FRAMINGHAM, January 30, 1867.

This Essay, after some discussion, was laid over under the rules of the Board, but subsequently taken up and accepted.

The Committee submitted a Report on

### PEAT FUEL.

BY GEO. B. LORING.

In the able and comprehensive report of Professor Hitchcock, made in 1833, by order of the legislature, upon the geological survey of the State, allusion is made to the vast deposits of peat which abound in many localities. In calling attention to these numerous storehouses of fuel at a period when wood was comparatively abundant in nearly all our inland towns, it is hardly to be supposed that he realized the day was so near at hand when the actual wants of an increasing population would verify his predictions as to their great utility and value.

After enumerating the various localities where peat was known to exist, and furnishing a tabular statement of the number of acres and thickness of the deposit in numerous localities, he remarks as follows :—

“ Excluding the western counties, and taking the amount of peat, given in the statements to me, at a fair average in all the towns of the other counties, (excluding the large towns,) it would follow that *eighty thousand acres*, or one hundred and twenty-five square miles, are covered with peat in that portion of the State, having an average thickness of six feet four inches. This area and depth would yield not far from *one hundred and twenty millions of cords*. We hence get an enlarged view of the quantity of matter in the State that may be employed as fuel or in agriculture, that has hitherto, except in some limited districts, remained almost untouched.”

## WHAT IS PEAT?

There are few persons in Massachusetts who could not readily furnish an answer to this question ; but, as there are several kinds of peat, varying in quality for fuel purposes as much as the several kinds of wood, it will be proper to describe them, so that the possessor of a bog may be able the better to judge of its value.

The peat deposits of Massachusetts are most commonly composed of aquatic grasses, mosses and other plants in a state of partial decomposition ; and they are never found upon localities which are not, or which have not been, at some previous time, subject to the overflow of water. Both the plant and the root of the plant enter into the composition of the material. With each successive year the process of growth and partial decay goes on. The winter snows, the autumnal rains and the spring freshets help to consolidate the mass, and in course of time, where the location is favorable, these deposits attain the depth of many feet. It would be a mistake to suppose, however, that all the peat, even in the same location, possesses the same degree of density. Sometimes several distinct strata will be found upon the same bog ; and it is by no means uncommon to find a light and spongy deposit of several feet in thickness near the surface ; another of much greater density below it, and still another below that and near the bottom, which, when dried, becomes as light and fibrous as hay or straw.

The lighter peats, by reason of their rapid combustion and want of substance, do not afford a strong fire, and when not artificially mingled and consolidated with the more substantial portions of the bog, will hardly pay the cost of working.

Besides the variety of peat referred to above, deposits are not unfrequently found in the State, where ligneous substances predominate ; and we have observed at Edgartown, and in some parts of Worcester County, deposits of several acres in extent, and of great depth and density, in which the peat seems to have been formed chiefly from the bark, limbs and trunks of trees. This description of peat is accounted the most valuable ; and, where the pine predominates, it is said to take fire more readily, produce more heat, and maintain its combustion for a longer time than any other.

## THE USE OF PEAT AS FUEL.

There are some localities in the States where peat has been used more or less as fuel for many years, and there are some families which having all the facilities for obtaining other kinds of fuel in abundance, would consider their winter arrangements for comfort incomplete, without a few loads of well prepared peat close at hand. At Nantucket, Martha's Vineyard, and some of the towns in Barnstable County, where wood is scarce, the inhabitants have found their peat bogs a source of great convenience and comfort; and the only thing needed to make them a source of profit everywhere to the owners, seems to have been the adoption of some cheaper and more rapid process for digging, shaping and consolidating it, than is usually pursued. And this brings us to a description of the various methods by which peat has been, from time immemorial, prepared for domestic use; and which are as rude as the ancient methods of treading out grain with the feet of men and animals.

## THE OLD PROCESS OF PREPARING PEAT.

There are two processes of preparing peat for use, in this country, without the intervention of machinery, and the peats so prepared are designated by the names of *slane* peat and *hand* peat, respectively. The "*slane*" peat is so called from the name given to the implement which is used in its preparation, and which is said to be of Irish origin. It is simply a narrow spade, somewhat longer than the common garden spade, about five inches in width, and having a sort of wing upon the side at right angles to the blade; so that in working upon the face of the bog, from left to right, it cuts two sides of each peat at the same time. The spade, or *slane*, should be quite sharp, but not so heavy as it is usually made, and the same implement fashioned of wood and simply *shod* with cast-steel, of the thickness of a common saw-plate, will be found much preferable. The implement above described, a common spade, and a wheel-barrow are all the tools requisite for preparing peat fuel, where the object is simply to cut and dry it in the most expeditious manner for family use, without reference to its quality.

In some parts of Massachusetts, where but few attempts have been made to prepare peat for market on an extensive scale, but little attention has been given to the arrangement of a definite

system of labor; and each owner of a bog has cut into his deposit with little regard to the economy of the proceeding, or the saving of material. But at Worcester, where the preparation of this kind of peat was entered upon about ten years ago, and where it has been successfully carried on up to the present time, the laborers have followed very closely the old country system which long experience had approved.

A description of this process would possess little value to any one at this time, for the reason that human ingenuity has in the application of cheap and effective labor-saving machinery to this object, demonstrated a better way. Another method of preparing peat fuel which we have seen adopted at Worcester, Nantucket and other places, and by which an article of greater density, and one in all respects superior to "slane" peat is produced, deserves a passing notice. We refer to what is known as "hand peat." In the preparation of this, no attention is paid to the form or size of the peats, and but few tools are requisite; the object being to reduce and mingle all the material thrown out into a pasty, incongruous mass. To facilitate the operation, water is bailed or pumped up from the neighboring ditches and freely distributed upon the freshly dug peat; while at the same time, a portion of the hands are trampling it with their feet and beating it with shovels. In this way, the solid, compact peat, and that also which is light and fibrous, are blended together, and when the whole is reduced to the consistency of mortar as used by brick-layers, the mass is permitted to remain a few hours until partially drained. It is then moulded by hand into loaves, about a foot in length, and six inches in width; the whole, presenting the appearance, except in color, of the loaves upon the floor of a baker's oven. In good weather the shrinkage caused by the evaporation of the water is such, that in forty-eight hours, these peats readily separate and may be piled up into small ricks, in which state the drying process goes forward with great rapidity. Sometimes this process is varied by drawing a harrow across the bed of freshly dug peat; the teeth of which, together with the trampling of the oxen or horses, serve the same purpose of disintegration and admixture as the feet of men and the blows of the shovel. Instead of the tedious process of moulding the peats by hand, the bed, after being made as smooth as possible, is sometimes marked off with the "tines" of

a pitchfork into squares, diamonds, or parallelograms of suitable size. Although the marks are made quite shallow, the exposure of a very few drying days, causes the peats to separate upon all the lines marked by the fork with great regularity, and, in this state they are piled into little ricks (in the same manner as the moulded peats,) so as best to receive the influence of the sun and wind. In about a week of good weather, peat prepared in the manner described above, may be piled in larger oblong heaps, and left to season upon the drained meadow or upland, until such time in the autumn as it may be convenient to house or cart it to market. Peat prepared in this way is considerably more expensive than the slane peat, but by reason of its greater density and non-liability to waste and crumble in handling, it is far more valuable. From some experiments made in comparison with wood of various kinds, it is found that a cord of such peat possesses the calorific value of about the same quantity of seasoned oak or maple wood; and it has found a ready sale in various localities where it has been prepared in this way generally at the same price and seldom with less than a dollar a cord of difference.

In both of the processes of hand-made peat which we have described, the loss in bulk and weight is very considerable, and it is safe to estimate that the average of peats are in these particulars diminished about seventy-five per cent. We are informed that at the extensive wire manufactory of Messrs. I Washburn and Moen, at Worcester, peat, prepared by both of these crude and laborious processes, has been found a cheap and valuable fuel, and it seems to possess properties so especially adapted to the annealing of wire, that those gentlemen have, during the last seven years, prepared not less than fourteen thousand tons for their own use, at a cost of about three dollars per ton.

#### PEAT MACHINES.

The utility of peat as a fuel, and its great importance in those localities in which it abounds, and where wood and coal are scarce and dear, have stimulated human ingenuity and mechanical skill to the utmost, in order to contrive a process of improving the quality and reducing the cost of its production. In Great Britain the nobility and gentry have vied with each other

and with men in the more humble walks of life, to invent a process for compressing and drying peat—one which would improve the quality, shorten the time, and lessen the expense of its manufacture by the tedious process of manual toil ; but generally with slight success. At first glance it would seem not to be a very difficult task to accomplish the separation of the superabundant moisture from the peat, as it is found in the bed ; but repeated and costly experiments have demonstrated, that in the manipulation of peat, whenever strong pressure was applied to the material in its original state, particles of the peat itself would follow the course of the water through all the apertures provided for the escape of that element, clogging the machine and rendering it useless for rapid and effective work. Three of the best of these compressing machines were patented respectively by Mr. Slight, of Edinburg, in 1833 ; by Sir Niel Menzies in the same year, and by Lord Willoughby D'Eresby in 1836. All of them gave abundant *promise* of success at the time ; but the author of the Rural Cyclopædia, published at Edinburg in 1855, declares that “all failed in effecting their object, in consequence of the extreme difficulty of retaining the peat while under great pressure ; for this has always been found to escape through any aperture that would pass water, unless an envelope of coarse flaxen cloth be employed.”

In the German States, where peat is almost the universal fuel, experiments in this direction seem to have been no more successful ; and the invention of Mannhardt, which was applied upon an extensive scale in Bavaria, was found, upon trial, to be quite impracticable. He attempted to get rid of the water by means of strainers of hair cloth, stretched upon huge cylinders fifteen feet in diameter, and revolving in opposite directions ; but although his machine was built at a cost of \$8,000, it was very liable to get out of repair, and has ceased to be considered a success. In Hanover, Hungary, France and Switzerland many other laborious and ingenuous efforts in the same department of inventive research proved abortive ; and to this day, upon the continent of Europe, the ancient Celtic method of digging and preparing peat, with some slight modifications, the result of local circumstances, seems to be that in most general use.



## AMERICAN PEAT MACHINES.

It seems to have been reserved to American ingenuity to demonstrate to the world that it was adequate to master the eccentricities of a material which had defied the efforts of the most ingenious mechanics of the old world ; and in our country, within the past three years, it has been demonstrated that we can take the lead in this important and difficult branch of industry, as we have done before, in the matter of reapers, mowing machines and other implements of domestic economy calculated to facilitate the labor of human hands and to lessen the strain upon human muscles. As a fuel, peat is always improved by condensation ; and of course the efforts of all inventors have tended to the completion of a machine which would insure the *utmost density* for the peat when dried. The simplest form of mechanical contrivance, applied to peat, is the common "pug-mill," such as is used in preparing clay for the brick-maker. It is found that even this simple operation greatly facilitates the drying process, and produces peat of more uniform density than can be produced by the methods already described, in which the manipulations are performed exclusively by hand-labor. But inasmuch as the peat must be removed from the mill in a wet state, carted to the dumping ground, and then fashioned in the usual manner of working hand peat, but little is gained in the economy of labor, and other machines have been invented which combine the three processes of grinding, compressing and moulding the peat into blocks of convenient size.

In 1865, Mr. S. Roberts, of Pekin, N. Y., invented a machine for which much is claimed. We have no reliable knowledge whether at this time the sanguine expectations of the inventor have been realized ; but from a recent letter written by him to a gentleman in Connecticut, we learn that the operation of digging the peat, feeding it into the machine, and carrying it to the drying ground, is performed by steam-power, derived from a twenty-horse engine. This machine, with all the apparatus complete, costs \$4,000 at the manufactory, and the purchaser is required to pay a royalty of fifty cents per ton. Its capacity is said to be equal to the production of twenty-five tons per day.

During the past summer the manufacture of peat has been conducted on a somewhat extensive scale at Lexington, in this State, by separate companies, operating the two rival machines

known as the "Leavitt and Hunnewell" and the "Betterly" machines. Both of these machines produce excellent peat fuel, which, we are informed, sells readily upon the bog, where it is made, at eight dollars a ton; but of their real or comparative merits we are not sufficiently informed to express an opinion. Machines built under both of the above-named patents have been in operation during the past season in several other localities in the State; but of the result, as far as pecuniary profit is concerned, we have no reliable data, other than the fact that all the peat manufactured has found a ready sale.

In the vicinity of Springfield a machine constructed upon principles quite different from either of the above has been operated during the past season. It is known as the "Leet machine," and one of its peculiarities is an arrangement for *separating* the fibre from the denser portions of the peat. It is doubted by some if this feature gives the machine any advantage; but without pretending to decide the question, we will only observe that specimens of peat which we have seen of its production appear to be of excellent quality.

All of the machines alluded to in the foregoing pages require considerable motive power for their operation; varying from eight to fifteen horse, and an outlay of five thousand dollars is the lowest estimate we have seen for putting them fairly at work. A considerable outlay it is true, but yet not one to deter an enterprising man or company from investing in the business, if, upon careful examination, it appears that the results claimed by the inventors can be realized.

Another competitor for the favor of the public is known as the "Rae Patent Peat Machine." It was invented in New York, by Dr. Rae, of Syracuse. It has been in use during the past season in the States of Wisconsin and Illinois, and comes to the East highly recommended. The Ames Plow Company, of Boston, control the entire right to manufacture and sell in all the New England States. This machine is very simple in its construction. It dispenses with the use of movable moulds. These machines are built of different sizes and capacity, from one which can be operated by a single horse-power, and producing four or five tons of dry peat per day, to that which will require an engine of five horse-power, and produce from fifteen to twenty tons in the same time. The outward form of the

large sized machine is that of a cylinder four feet or more in length, with gearing on one side at the bottom, and on the other side copper tubes from which the prepared peat is forced. The inner machinery consists of a vertical shaft revolving in the centre, carrying wings set spirally, so as to force the peat downwards into contact with stout revolving arms furnished with knives. These knives thoroughly pulverize the peat, and set diagonally, also force the now homogeneous mass downward, where it is still further forced by a spiral propeller through the delivery tubes. These tubes, two in number, decrease in size so as to compress the peat before it leaves the machine. The spiral arrangement by which each part of the machinery performs its work and passes the peat onward, is completely and very neatly carried out, the compressed and finely ground peat being delivered upon endless belts in continuous cylindrical rolls of any desirable length.

All of the machines, heretofore described, are designed for the manipulation of peat in its ordinary state, just as it is taken from the bog; but there has been in operation at Belleville, N. J., during the past summer, a more expensive and complicated machine, invented by Dr. Elsberg, and bearing his name. This machine is designed to prepare peat in such a way as to save the time usually occupied by the tedious process of drying the wet blocks, after their delivery from the machine. Accordingly, the surface of the meadow is harrowed so as to expose the disintegrated peat on the surface, to the sun and wind. This air-dried peat is then supplied to the machine, where it is subjected to a current of steam, and then to the action of powerful presses, from which it is delivered in cylindrical cakes, of a density equal to that from peat machines, which manipulate the wet material *after* it has undergone the process of drying. The Elsberg peat is almost dry enough for use when it comes from the machine, but it does not bear exposure to the action of the rain without crumbling as does peat prepared by the other methods described, and all accounts agree that it cannot maintain its solidity when exposed to the effects of a strong draft. Notwithstanding these defects, however, a company has been formed in New York, with a capital of half a million of dollars, having in view the working of an extensive bog in Rhode Island, the coming season, with this machine, and the supply of the

Blackstone Valley with fuel, at a greatly reduced cost from that at which it is now attainable.

#### ECONOMICAL ADVANTAGES OF PEAT FUEL.

Through the facilities afforded by such machines as we have already described, or which may be brought into use hereafter, it seems that the period is not very far distant when it is to be hoped that the people of Massachusetts will realize the value and importance of the immense deposits of fuel within the borders of their own State, and hasten to enjoy the advantages to be derived from its preparation for use. Should the question arise, as it doubtless will, in many minds, why a material possessing so much value and importance as peat, should have been so long neglected and overlooked, even in localities where wood and coal are scarce and dear, our reply must be, that the fulness of time had not arrived for their development, until American mechanism had triumphed over the obstacles which prevented its *economical* production. It seems to us, that precisely in the same manner, if not in the same degree, that the inventive skill of Eli Whitney enhanced the value of lands adapted to the growth of cotton, and gave an impetus to the agriculture of the country, such as it never received before or since ; that the application of suitable machinery to the immense deposits of excellent fuel which lie all about us, is destined to work out similar grand results. Peat in the bog, dependent upon hand labor alone for its preparation and development into fuel, is as valueless as cotton in the seed before the days of the cotton-gin. But with the aid of proper machinery and steam-power combined, it may, in a very short space of time, be converted into a marketable commodity at a handsome profit, and having a specific value like that of all the other productions of our fields, forests, and mines. The peat question has, in our opinion, passed the experimental stage. We take it for granted that the people have no need to inquire what it is good for, because the adaptability of condensed air-dried peat to all the domestic purposes for which coal and wood are used, has been so completely demonstrated during the past few years in so many different localities. In saying this we do not intend to convey the idea that peat fuel is to drive coal and wood out of the market, but we do say that it is capable of furnishing a cheap and convenient

substitute for either, and adding immensely to the natural resources of the State. We are a manufacturing people, and cheap steam-power is one of the most important elements of the growth and prosperity of our industrial communities. To feed the iron horse, our forests have been cut away to such an extent that the price of wood, notwithstanding our large importations of coal, has doubled during the last twelve years. And coal can only be supplied to the towns in the interior at a cost for freight which so enhances its price as to make its use a burdensome tax upon all who rely upon steam-power to drive their machinery. Now it so happens that there is scarcely a manufacturing community in the Commonwealth where peat of good quality is not found in the immediate neighborhood, sufficient to supply the wants of the people for many years. In some localities, centuries would not exhaust the supply, and this too, of a fuel which is especially adapted for the production of steam-power, either in stationary or locomotive engines as we shall proceed to show by the recital of well established facts, derived from our own knowledge and from various authentic sources.

In 1856, trials were made upon the Worcester and Nashua Railroad, with common hand-made peat. A freight train consisting of thirteen heavily loaded cars was driven from Worcester to Groton Junction at a rate of speed that was entirely satisfactory, and with so small a consumption of fuel as to demonstrate that in economy of expense it had a decided advantage over wood. No change was made in the fire-box of the engine, and no difficulty whatever was experienced in its use. The steam-gauge through the whole trip indicated a pressure of nearly a hundred pounds to the square inch, which was better than the average attained by the engine used, even with wood of the best quality.

Another trial of crude peat, sun-dried and without condensation, was made upon the New York Central Railroad January 3, 1866, and is thus reported by the master mechanic who had the experiment in charge:—

*“ Trial of peat made January 3, 1866. Engine No. 248, built at Schenectady Locomotive Works.—Left Syracuse at 8 o'clock and 40 minutes, (40 minutes behind time,) with 25 empty 8-wheel box freight cars. Started with 120 pounds steam; the*

engine worked well and took us along pretty sharp, as we made up the 40 minutes in going 25 miles, and arrived at Port Byron on time. The steam did not run below 120 pounds any of the time, and was often from 125 to 130 pounds. When the engine was working the strongest she would steam the best.

"We made time all the way very easy, although we had a strong head wind all the way, and snowing at times quite fast, and very cold. We took on a trifle over four tons of peat at Syracuse, which was all we had. We could have run to Fairport with it (71 miles,) if we had not been detained at Palmyra about one hour and a half. It gave us as much steam as wood, and burned a beautiful fire. Our trip was a perfect success, and I am sorry that there were not more present to witness it. We used a coal-burning grate that we could shake and get the ashes out of the furnace.

"I am confident that we can use peat in locomotives for fuel, or for stationary engines with the peat properly cured and the right kind of grate used for burning it in.

"Yours truly, . H. WATKEYS, *Master Machinist.*"

A similar trial, a little later, on the Hudson River Railroad, was equally satisfactory.

The "Hartford (Conn.) Press" closes its description of a visit of a party of gentlemen to the *Ætna* peat-works near Berlin:—

"The train was drawn by the 'C. F. Pond,' burning peat that was not thoroughly prepared. A speed of forty-five miles an hour was attained over a portion of the road without difficulty. The fuel question is not yet entirely settled, but experiments thus far point to complete success in the use of peat, and we shall yet see the time when the swamps of New England will yield a crop as valuable as that produced from her most fertile fields."

From a work upon "The Nature and Uses of Peat," written and published by J. H. Benham, Esq., of New Haven, we copy the following account of a trial of peat for locomotive fuel recently made in that vicinity:—

"On the 2d day of June, 1866, a trial was made on the New Haven, Hartford and Springfield Railroad. A coal-burning engine, fired with peat, drew a train from Hartford to Spring-



field, making 'express time,' the steam being made so much faster than usual as to be constantly escaping. The peat was cut from near the surface, and simply dried in the old way; yet a ton and a quarter was found to have produced as much steam as a ton of coal."

The experiment was considered highly satisfactory; but there can be little doubt that it would have been much more so if the peat used had been brought into a more condensed form.

Reports of similar experiments, which have appeared from time to time in the scientific journals of foreign countries, seem to confirm the results which we have already cited.

In an able and interesting treatise on the subject, by Mr. T. H. Leavitt, published in Boston last year, there is condensed a vast amount of useful information derived from these sources, of which all persons interested in the subject may readily avail themselves.

A copy of the "London Engineer" of recent date states that at a meeting of the Society of Engineers, at Exeter Hall, a paper was read by Mr. P. F. Nursey, in which it was shown that "the cost of *condensed* peat did not exceed that of coal at the mouth of the pit, and that it possessed some qualities superior to coal, especially its heating power. A trial of the condensed peat had been made by Mr. B. Fothergill on a river steam-boat, in which 12 cwt. were consumed in two hours twenty minutes, the ordinary consumption of coal being 12 cwt. per hour. The peat gave no smoke and left no clinkers. The locomotive engineer of the Belfast and Northern Counties Railway had tried the condensed peat on that line. In a trip of seventy-four miles, the total quantity of fuel burnt was 14 cwt., one-quarter, fourteen lbs.—the train, including engine and tender, weighing seventy tons. The time occupied was three hours nine minutes. The trial proved satisfactory. An analysis of the peat by Mr. Rickard was given, which showed it to contain but a trace of sulphur, and no phosphorus, which rendered it peculiarly adaptable for iron-smelting and other purposes, where the presence of either of those bodies was so pernicious."

Particulars were also given of an experiment, on a practical scale, by Mr. G. Murrall, at the Creevelea Iron Works, Leitrim, in which condensed peat was used for smelting iron ore. The iron was equal to any charcoal iron.

The following statement, from the "London Mechanics' Magazine," affords additional testimony in confirmation of these interesting and important results :—

"The locomotive superintendents of three railways in Ireland made a trial of condensed peat, on the Belfast and Northern Counties Railway, to test its fitness for locomotives. During a trip of twenty-seven miles there was an excess of steam, though the fire-door was continually open and the damper down for the greater part of the distance. The pressure at starting was 100 lbs. The commencement of the trip was up an incline of one in eighty, four miles long, with double curves. While ascending this incline, the pressure rose to 110 lbs., and afterward to 120 lbs., with the fire-door open. The speed was forty miles per hour. While running, there was no smoke, and little at the stations. The fire-box was examined at the end of the trip, and very little clinker was found, and the smoke-box was free from cinders and dust—a proof that the fuel had stood the blast well ; and it is the recorded opinion of the experimenters that the peat was, in every respect, well suited for locomotives."

During the past season some careful experiments have been made to test the utility and comparative value of condensed peat as fuel for stationary engines, by Edward Atkinson, Esq., of this city, and we give the following as the result of his investigations.

Mr. Atkinson informs us that at the Indian Orchard Mills, five miles from Springfield, the experiments in manufacturing peat were made late in the season and imperfectly carried out. In consequence of the unusual rain-fall in August and September he was able to make no absolute or scientific tests in comparison with other fuel as he desired ; but he authorizes us to state that the trials made were so far satisfactory that "the company expect to manufacture their own fuel hereafter from their own bogs, rather than to pay five dollars a cord for mixed wood of fair quality delivered at their mill."

The following letter on this subject, addressed to Thomas Drew, Esq., has been placed in our hands, and will be read with interest :—

"LEWISTON, Me., February 7, 1867.

"DEAR SIR:—Yours of the 4th is at hand. In answer to your inquiries, I would say that I did not commence to manufacture

peat fuel until about the middle of August last. I manufactured in all about one hundred and fifty tons, using Leavitt's machine, which I find will turn out, on the average, eight tons of dry, or thirty-two tons of wet peat per day.

"The cost of manufacturing does not exceed three dollars per ton, which will cover the cost of labor for taking it from the bog, manufacturing and drying; also the interest on the cost of machinery and buildings and losses from all ordinary accidents.

"I use some \$20,000 worth of fuel per year, and have tried wood, coal and peat, and consider that when hard wood is worth six dollars per cord, coal is worth nine dollars per ton, and peat eight dollars per ton for making steam. It would perhaps be better to state that I am not interested in any peat machine, or in the sale of any peat in any form.

"Yours, &c.,

N. W. FARWELL."

Mr. Leavitt, in the same work from which we have already quoted, gives the following additional testimony as to the value and economy of peat fuel:—"N. F. Potter, Esq., of Providence, R. I., President of the Narragansett Brick Company, informs us that he has used peat under their large boilers for several months, with highly satisfactory results as to its heating properties, and at a large reduction of expense as compared with wood or coal. They are now making preparations to manufacture it on a large scale."

Many other illustrations could be added, all equally satisfactory as to the practicability and economy of using this class of fuel. In regard to its use as an article of domestic economy and comfort, even when prepared in the rude old method of the Irish peasantry, and which until recently was the only method adopted in this country, there is also a great deal of favorable testimony from persons who have been accustomed to its use for many years. Prepared in that manner its heating properties are unquestioned, but because of its want of cohesion and liability to crumble when handled, it was not a favorite with housekeepers, as it "made dirt," and the finer particles, by temporarily clogging the fire, produced a smoke which was often disagreeable. But the peat we have seen and tested which has been condensed by the aid of machinery, and thoroughly dried, is an entirely different article; one, which even the

neatest and most fastidious housekeeper would be proud and happy to possess in abundant supply. As a fuel for the cook-stove it seems to us that it cannot be excelled by any description of wood or coal. In the sick-chamber, too, it has an especial value, from the ease with which it is kindled, and the tenacity with which it retains fire ; while, in the open grate it burns with a brisk, cheerful flame, when first ignited, and afterwards, for a long time, with an intense glowing heat that is especially agreeable.

#### OTHER USES OF PEAT.

Having already alluded to the value of peat for domestic use, and for the generation of steam in locomotives and stationary engines, we wish now to present a few items of testimony from sources equally reliable, with the hope that they may serve as suggestions to the manufacturers of iron, in this Commonwealth, to study their own interests so far as to ascertain if similar results can be attained, from the peat bogs of Massachusetts, to those which have been realized by some of the iron masters of the old world. It has long been known that charcoal, of an inferior quality, could be made from blocks of peat prepared in the usual way, by the old methods in use before the introduction of modern machinery ; and such charcoal, poor as it was, was greatly prized in some localities where wood charcoal was unattainable, for forging purposes. The presence of sulphur in coal used in the smelting or forging of iron and in the annealing of wire is very prejudicial to the strength and tenacity of the metal ; and it has been found that condensed peat, and charcoal prepared from that material, produces iron equal in quality to that which is prepared by the exclusive use of wood charcoal. At "Platt's Iron Works," in Oldham, England, "peat charcoal was subjected to the severest tests, and produced a quality of iron so perfect as to admit of being completely doubled when cold, without exhibiting a single crack." At a meeting of the "Society of Arts" in England, a few years since, Mr. W. E. Newton, remarked, that "every iron manufacturer knew that if he could get good peat to stand the blast, that it was infinitely superior to coal for their purposes, for the simple reason, that it contained no sulphur. They could produce iron with peat from the worst brands which would almost equal the best Swedish

and Russia iron." It is not at all unlikely that the superior quality of the iron and steel wires manufactured by Messrs. Washburn & Moen, of Worcester, is in a great measure attributable to the use which they make of peat, instead of coal in its preparation; their consumption of this kind of fuel amounting on the average to two thousand tons a year.

The difficulty of condensing peat so that it will "stand the blast," having, after so many experiments, covering a period of half a century, been at last overcome, its introduction has been quite rapid in those countries where peat abounds, and it is now used on a large scale for the working of iron in England, France, Bavaria, Italy, Hungary, Bohemia and other countries. Experiments made in England last year, of which we have reports, convinced some of the most scientific minds of the following: "That it is also equal if not superior to the best charcoal for smelting iron-ore; and its value for puddling has been demonstrated with equal certainty. At Konigsbron peat is used for puddling and refining pig-metal to make the finest German castings, which formerly required the best charcoal." This peat is not condensed by machinery, but is kiln-dried before using, in order to evaporate all the moisture.

We trust that enough has been said in the foregoing pages upon this newly developed branch of industry, to induce the farmers, manufacturers and capitalists of Massachusetts, to look carefully into the question of fuel supply which has so important a relation to the productive capacity of the State, and consider what may best be done to utilize the immense storehouses of peat that abound in almost every locality, and which need only the hand of intelligent labor, in combination with modern machinery and capital, to make them available as a permanent source of profit and convenience.

There would seem to be little need of sending so often to Pictou, Maryland and Pennsylvania, for our supplies of fuel, when we have at home a substitute for their coals which can be delivered at our own doors, at an average, as is claimed by the manufacturers, of one-half the bare cost of transportation of our supplies from those localities. We have a great home market for fuel, and we shall only follow one of the plainest principles of political economy if we turn our attention to supplying that

market with the product of home labor, having the raw material in *exhaustless* quantities, close at hand.

#### QUANTITY OF PEAT FUEL PER ACRE.

And this leads us to remark that persons unacquainted with the subject can hardly realize how large a quantity of dry fuel can be taken from an acre of peat bog. Several estimates have recently been published as to the number of tons of dry fuel obtainable per acre, from each foot in depth, varying in amount from 850 to 1,000 tons. Some of these we know are unreliable, and from some experiments of our own we should prefer to state the quantity at no more than 250 tons for each foot in depth; but even at this rate a meadow four feet deep will yield *a thousand tons per acre*; a quantity quite sufficient to satisfy the desires of the most sanguine owner or manufacturer, considering its real value and its relation to the prices at which such lands may be bought in every section of the State. Of course, the quantity of fuel per acre must vary not only according to the depth, but density of the deposit in various localities, and any person who desires to be accurate may test the matter for himself. He has only to cut from his drained meadow a cubic foot of peat of average quality, carefully dry it until it reaches the condition fit for fuel, and ascertain its weight. Multiply the weight so obtained by 48,560, the number of square feet in an acre, and he will have the number of pounds per acre that the bog will produce from every foot in depth.

#### METHOD OF TESTING THE QUALITY OF PEAT FUEL.

As the difference in the value and quality of peat for fuel purposes is hardly less than that between the best oak or walnut wood, and the poorest quality of white pine, it will be useful for all interested in the subject to make their own experiments before incurring any considerable expense in preparations for its manufacture. The best proof of the value of a peat bog is in the manner and duration of its combustion, and the quantity of ash which remains by weight in comparison with the weight of dry peat before ignition. To ascertain these important particulars, peat should be selected from all the different strata that may exist, and from different parts of the bog, and each sample should be crushed, and consolidated by hand into balls



of the size of the fist. The difference in their weight when dried and when taken from the bog, will show the percentage of water contained and the difference between the weight of the dry peat before burning and the ash that remains will give the weight of carbonaceous matter in the fuel, upon the abundance of which its heating value depends.

The most common impurities of peat are sand and clay, blown or washed in from the adjacent uplands; and an excess of these materials detracts from its value in the proportions in which they exist. Some of the best peats found in the State do not yield a residuum of ashes beyond five per cent. of their original dry weight; while there are others which burn quite freely, and leave a residuum of twenty per cent. Individuals and companies should ascertain all these facts beforehand, or they may acquire, at too costly a sacrifice, the knowledge obtained by one of the peat companies in the western part of the State, which, after providing itself with all the machinery requisite for an extensive business, found, when too late, that by reason of the excess of foreign substances in their raw material, the fuel made was almost valueless.

There seems to be but little doubt that in progress of time the peat-bogs of our State will be brought into use, and that for domestic purposes, as well as for stationary and movable engines, it will be valuable. At any rate, every careful experiment should be made in its manufacture and use; and we trust that another season will bring out additional facts, which will be valuable to the owner of the land as well as to the consumer of fuel.

The Committee desire to express their obligations to the gentlemen who have furnished them with many important facts in relation to the manufacture and use of peat, and they respectfully submit their Report.

GEO. B. LORING, *Chairman.*

JAMES THOMPSON.

C. O. PERKINS.

This Essay having been read a second time by its title, was adopted; when an Essay was presented upon

## AGRICULTURAL EDUCATION.

BY C. O. PERKINS.

We assume that by Agriculture is meant the cultivation of the soil, so as to make it productive of the largest returns ; and that, by Education, is meant the cultivation of the faculties, so as to enable them to reach the highest attainments. And who can measure the power which the educated mind has acquired, and is destined to acquire, over the material world ? In the popular use of the term, agriculture includes the rearing and care of animals, and the growth and improvement of vegetable and cereal produce. And, in a similar use of the term, education implies the development and improvement of all the faculties of man. How, then, shall we best effect these ends ? How educate men to become agriculturists ?

Agricultural education does not receive its due share of attention in our institutions of learning. The branches of study which are chiefly pursued there have no tendency to create or foster a taste for agricultural life and labor. Yet, without such taste, no amount of school instruction will be sufficient to make the farmer's occupation pleasant or successful. If, then, we would promote agricultural education, we must first create a taste for rural life and employments. Socrates said : "Agriculture is an employment the most worthy the application of man ; the most ancient and most suitable to his nature. It is the common nurse of all persons in every age and condition of life. It is the source of health, strength, plenty and riches ; and of a thousand sober delights and honest pleasures. It is the mistress and school of sobriety, temperance, justice, religion ; and, in short, of all virtues, civil and military." Franklin said : "The farmer has no need of popular favor. The success of his crops depends only on the blessing of God upon his honest industry." Washington said : "I know of no pursuit in which more real and important service can be rendered to any country than by improving its agriculture. A skilful agriculture will constitute one of the mightiest bulwarks of which civil liberty can boast." And others have said : "No class of society have within their reach so many of the elements of human enjoyment as the independent tillers of the soil." "Of all the occupations in which men engage for the purpose of gaining a

livelihood, by the application of capital, there is none in which a large and varied stock of accurate knowledge is not only desirable, but so absolutely necessary for obtaining the greatest returns, as in farming." "Of the various occupations and professions which have engaged the attention of mankind, there is not one which seems so permanently useful, so honorable; in short, so compatible with all our interests, as the cultivation of the earth; and none which calls for so diversified and general knowledge."

As a science, agriculture has no limits. It not only deals with soils, but with all that pertains to animal and vegetable life. To make agricultural labor popular, it must be associated with the highest degree of intelligence and the widest attainments in knowledge. There must be more employment of thought and less of muscular labor. We must promptly seize upon any new and useful mechanical improvement, by which labor will be lightened or made more effective. Every such improvement will increase the leisure of the farmer, and his ability, also, to supply his personal wants. "Knowledge is power," and the more extensive our attainments, the more easily shall we continue to acquire. The object of the farmer should be to increase the production and improve the qualities of animal and vegetable life, and to add thereby to the amount of his comforts and enjoyments. And this can best be accomplished by the acquisition of knowledge, which will give him greater power in his special employment, and, at the same time, a better position and more influence in society.

Agriculturists are the most numerous class in the community. Let them frown upon those who look upon labor as degrading. Let their influence be made to have its due weight in legislation, until their labor shall receive its proper reward. When agriculture shall be regarded as an intellectual employment, when its labor shall be as fully rewarded, and its invested capital yield as large returns as any other occupation, then will not only youth cherish a love of rural life, and age an attachment to the soil, but vigorous manhood, also, will find delight in the comforts and pleasures of a farmer's home. To encourage habits of industry in children, with particular reference to agricultural employments, will have a strong tendency to make them desire those employments. By allowing them the production or care of something which they may call their own,

and by fostering their anxiety to rival the care and productions of others, we shall enlarge their powers of reflection and observation.

“Tis education forms the common mind,  
Just as the twig is bent, the tree's inclined.”

“What things,” said one, “do you think it most proper for boys to learn?”

“Those,” it was replied, “which you wish them to practice, when they become men.” “Train up a child in the way he should go, and when he is old, he will not depart from it.”

Parents are not sufficiently aware how immense is the benefit which would result, in every way, from this encouragement of industrious habits in their children. Industry is, in fact, the great preventive of poverty and crime. Were it universally inculcated and fostered in youth, there would be much less need of doctors and lawyers, and, as we think, of ministers. Let children be intrusted with something which requires special attention and care at a given time. This would help to fix in them habits of reflection and order. I well remember my anxiety, when a small boy, to have something which I might call my own; something in respect to which no interference of others should interrupt or alter my plans. I remember that, when I was about nine years old, I gave my brother a half dollar to be allowed to call all the chickens my own, and have exclusive control and care of them. Then there was no divided interest, and their wants received increased attention. I also remember that my father gave me a small piece of land to cultivate, the crop from which was to be my own. Weeds were not to be found on that piece of land, and the potatoes which I raised were so large that twenty-six filled a half bushel measure. The end of a hog's trough reached through the fence; and, as it leaked, I was not slow to perceive the effect of a rich irrigation of my land. When I was twelve years old, I came into possession of a pair of calves. I allowed them to run with a cow until they were a year old,—feeding them, also, with potatoes which I had raised,—and their growth was really wonderful. Before they were two years old, I sold them for \$42, to a man who was seeking to buy the best he could procure. This left me \$7 after paying all expenses. Common, good oxen, were at that time worth \$65 per pair.

I mention these things to show that boys should be encouraged to labor, and aided to act the man on a small scale ; and, also, that they should be educated, as far as possible, at home. If sent away, for any considerable length of time, to obtain instruction, they will lose their interest in and love for the farm. Our system of district and high school education cannot be too highly appreciated by farmers.

The low estimate which farmers too often have of themselves and their occupation, is one of the surest barriers to the assumption of their proper position in society. It is easy to discern, the world over, an absurd prejudice against manual labor. But why is it that manual labor is thought degrading ? Why is it that it is associated with the idea of meanness ? Why does any considerable amount of education lift a man above it ? Why do intelligent people shun it ? Why is it an almost invariable rule, "The more work the less pay, and the less work the more pay ?" Perhaps some may doubt or deny that things are as I have stated. But observation and statistics will confirm the truth of my assertions. And the reasons for this state of affairs are twofold. In the first place, labor is associated with ignorance—and not without reason. Man makes a given force accomplish a greater piece of work in proportion as he is intelligent. He makes skill take the place of muscle. He obtains a better product with less labor. Make men intelligent, then, and they will find a shorter process for obtaining any result. They will become inventive. Secondly, labor, as it is generally associated here, is merely physical. Make it intelligent, and you will enhance its value, as much as mind is superior to matter. We yield to superiority of intellect, but not to brute force. It is mind that acts on mind ; and, as this becomes enlightened, it prefers to be thus acted upon. And as mind is the motive power of man, who can measure the effect of one mind upon another ?

We often hear those who pursue the law, medicine, and the ministry, spoken of as the privileged class in society. It is the privilege of the minister to be continually telling men of their failings and proneness to sin ; that although the first human pair were perfect when placed in the Garden of Eden, they fell from that state of innocence ; and hence the necessity for ministers. It is the privilege of the lawyer to become conversant

with the vices and crimes, the wrongs and hatreds, of men ; while the physician deals with the mental ills and physical ailments of humanity itself. But is the labor of the physician who visits all manner of disease and every loathsome ill, more cleanly than that of the farmer ? Has the lawyer, who, for a piece of money, defends his client—even the thief or the murderer—from punishment, a clearer and more peaceful conscience than the farmer ? Does the minister always lay his head upon the pillow at night with the feeling that nothing has been left undone, which human agency could do, for the salvation of his flock ? It is indeed the privilege of these classes to live upon the depravity, the perverse will and the manifold ills of mankind ; and whatever helps to increase the latter, helps, at the same time, to increase the need of the former. In one sense they are, it must be confessed, a privileged class, for they deal with minds ; their knowledge of human nature is extended ; their influence is increased.

We hear the farmers called the *producing* class. But, if there is a *privileged* class in the community, it should be the intelligent, independent farmers. They are privileged by their Creator in the enjoyment of those temporal blessings which are the natural result of sober, industrious and contented habits. It is the man that determines the dignity of his occupation, and not the occupation which measures the dignity of the man. Knowledge exalts. Ignorance degrades. Farming will be esteemed honorable just in proportion as it is associated with refinement and intelligence. Nor is it enough that we merely have knowledge. We must be able to impart it to others. Many farmers have native good sense without the power of using good language ; and consequently they do not take that social position to which their good sense would otherwise entitle them. Speech is the grand distinction between man and the brute creation. But this is the result of cultivation and social intercourse. Laughter and tears, smiles and blushes, are instinctive acts of man. Our social rank depends very much upon our power of using correct language. An easy, fluent, graceful utterance gives one access to many social advantages ; and these, in turn, afford aid to his utterance. It is not so much what we know that gives us power over others, as it is the ability to bring out and make use of our knowledge ; and the ability



to do this helps us, also, to draw out the knowledge of others. The ability to converse with force and clearness, with grace and propriety, should be, therefore, a part of the farmer's education. His isolation from society and his toilsome life render him liable to become coarse and awkward in manners and speech. Hence we observe one great use of farmers' clubs, farmers' festivals and agricultural fairs. Here his stock of knowledge may be enlarged, and with it his respect for his calling and his self-respect will be increased. His social powers will here be called into direct action. A clear expression of his thoughts will enable him to exert a greater influence upon others, and, at the same time, it will strengthen the distinctness of his own perceptions. He who can give the most intelligible expression of his ideas in the fewest words has the best command of language; and his command of language may be made more forcible by proper muscular action. There is a language in action, in the features of the face, in the expression of the eye—a language which speaks from the heart, and is beyond the utterance of the voice.

The farmer should improve, then, every opportunity to cultivate his social nature. It is the attrition of mind with mind which polishes and gives vital force to man. He must take time for social intercourse and intellectual improvement. Conversation is the great recreation of life, stirring us to activity, cheering us around our hearthstones, moving the heart gently, often deeply, crowding the memories of years into moments, and kindling the purest and happiest emotions.

The farmer has no good reason for discouragement. No nation or people on earth has ever equalled our own New England, in the rapid increase of knowledge, in the ability to seize upon and put into use every conceivable power and appliance by which the condition of man may be elevated, his capacities enlarged and his wants supplied. We have annihilated time and space. By aid of machinery, we make the labor of one man accomplish that of ten or a hundred others. The rapid strides, which the mass of the people are making in intelligence, refinement and self-respect, in all that adds to the comforts of life and extends the benefits of civilization, have been no less wonderful. With churches, we have district schools, high schools, academies, colleges, agricultural colleges, institutes of

technology, natural history societies, literary and scientific associations, a State Board of Agriculture, farmer's clubs, agricultural fairs, and, above all, the pulsations of the heart of a civilized, cultivated, religious and patriotic people, beating in unison for the prosperous maintenance of all these institutions; and a State government, upholding, aiding and improving not only these, but all our humane, charitable, correctional and reformatory institutions. We ought, then, to be stimulated to increased mental action, and awakened to a just sense of the responsibilities that are resting upon us. We should feel individually, that we are liable to be outstripped by the industry, ambition and perseverance of others. We should none of us say or imagine that Providence has dealt hardly with us, or that our occupation is not blessed with His favor. The avenues to knowledge, wealth and distinction are open to all, and "he who strives may win."

Agriculture has furnished its share of the great men of every nation. Presidents Washington, Jefferson, Madison, Monroe, Jackson, Harrison, and Lincoln were farmers. But the farmer should not be ambitious of public preferment or popular favor. They who have sought the highest gifts in the nation's power, have often gone to their graves in disappointment and chagrin. Laboring for worldly preferment, another may reap what we have sown. But in agriculture, every one reaps the fruit of his own labors. And the thrifty farmer, who has the respect and esteem of the community of which he is a member, has no cause to envy the happiness of those who seek and gain the popular favor.

The farmer has constant, intimate and sensible relationship with Heaven. Living in close connection with nature, "he looks, through nature, up to nature's God." He stands, as it were, in the continual presence of a visible Creator. He knows that every effect must proceed from an adequate cause; and he turns his thoughts, from the works of nature, upward to the supreme, intelligent Originator of all. He enjoys a freedom from those selfish passions, which are so rife in crowded cities. Reason, reflection, conscience and a living charity, tranquillize all his feelings. His soul expands with noble emotions; and he stands erect in the conscious dignity of a man. His home is the abode of purity and peace. Religion hallows the very

atmosphere he breathes therein. Mindful of that goodness which smiles in every morning and at the close of every day, he gratefully ascribes all that he enjoys to the blessing of God, and trustfully relies, for all that he needs, upon the providence of God.

CHARLES O. PERKINS.

This Essay was read a second time by its title, and adopted.

WEDNESDAY, February 6, 1867.

The Board met at 10 o'clock, A. M., according to adjournment, Mr. Billings in the chair. Present, Messrs. Billings, Birnie, Chadbourne, Cleaveland, Clement, Cole, Hubbard, Hyde, Johnson, King, Knowlton, Loring, Moore, Porter, Sewall, Slade, Smith, Stockbridge, Thatcher, Ward, of Shrewsbury, Ward, of Monson, and Watkins.

Mr. Hubbard submitted the Report of the Committee on Credentials, as follows : —

The Committee on Credentials have examined the certificates of election of new members, and find the following to have been duly elected for three years :—

JOHN B. MOORE, by the Middlesex Society.

WILLIAM KNOWLTON, by the Worcester South-East.

H. S. PORTER, by the Hampshire, Hampden and Franklin.

WILLIAM BIRNIE, by the Hampden.

H. S. WARD, by the Hampden East.

ALEXANDER HYDE, by the Berkshire.

JOHN L. COLE, by the Hoosac Valley.

NATHAN DURFEE, by the Bristol Central.

Professor LOUIS AGASSIZ, of Cambridge, reappointed, and Professor WILLIAM S. CLARK, of Amherst, appointed by the Executive, in place of Professor CHADBOURNE, resigned.

This Report was accepted, and the above named members declared duly elected.

Mr. Chadbourne made a statement in regard to the Massachusetts Agricultural College, when it was

*Voted*, That a committee of three be appointed to consider the suggestions made by Professor Chadbourne. Messrs. Loring, Stockbridge and Smith.

*Voted*, That the connection of the Board with the Agricultural College, be referred for consideration to the same Committee.

This Committee subsequently submitted the following Resolutions, which were unanimously adopted :—

*Resolved*, That the Act of the Legislature, making this Board a Board of Overseers of the Agricultural College, makes it obligatory upon us, to give all the aid in our power in sustaining that institution, and in encouraging our young men to prepare themselves, to be scientific agriculturists.

*Resolved*, That this Board recommend to each agricultural society, receiving the bounty of the State, to establish at least one scholarship in the Massachusetts Agricultural College, either by a fund, or by stated appropriation from year to year, to be granted to some young man residing within the limits of said society. And that in the selection of candidates, preference should be given to such as propose to devote themselves to agricultural pursuits within the limits of said society.

The Board then proceeded to the

#### ASSIGNMENT OF DELEGATES.

Delegates to attend the agricultural exhibitions of the county societies were assigned as follows. To the

Essex, . . . . .	H. S. WARD, of Monson.
Middlesex, . . . . .	JAMES THOMPSON, of Nantucket.
Middlesex North, . . . . .	WM. BIRNIE, of Springfield.
Middlesex South, . . . . .	GEORGE B. LORING, of Salem.
Worcester, . . . . .	L. SALTONSTALL, of Newton.
Worcester West, . . . . .	J. M. SMITH, of Sunderland.
Worcester North, . . . . .	ALEX. HYDE, of Lee.
Worcester South, . . . . .	C. G. DAVIS, of Plymouth.
Worcester South-East, . . . . .	H. S. PORTER, of Hatfield.
Hampshire, Hampden and Franklin, . . . . .	THOMAS BILLINGS, of Lunenburg.
Hampshire, . . . . .	C. SANDERSON, of Phillipston.
Highland, . . . . .	A. P. SLADE, of Somerset.
Hampden, . . . . .	ASA CLEMENT, of Dracut.
Hampden East, . . . . .	J. JOHNSON, Jr., of Framingham.
Franklin, . . . . .	L. STOCKBRIDGE, of Hadley.
Berkshire, . . . . .	E. W. BULL, of Concord.
Housatonic, . . . . .	GEO. A. KING, of Barnstable.
Housatonic Valley, . . . . .	D. A. CLEVELAND, of Tisbury.

Norfolk, . . . . .	WM. KNOWLTON, of Upton.
Bristol, . . . . .	J. L. COLE, of Williamstown.
Bristol Central, . . . . .	M. F. WATKINS, of Hinsdale.
Plymouth, . . . . .	N. S. HUBBARD, of Brimfield.
Barnstable, . . . . .	T. D. THATCHER, of Lee.
Nantucket, . . . . .	T. W. WARD, of Shrewsbury.
Martha's Vineyard, . . . . .	C. C. SEWALL, of Medfield.

THURSDAY, February 7.

The Board met at 10 o'clock, A. M., Mr. KING in the chair.

*Voted*, That the country meeting of the Board be held at Concord, beginning on Tuesday, December 10th, at 12 o'clock.

Mr. SMITH, from the committee to whom the subject had been referred, submitted the following Resolutions, which were adopted :—

*Resolved*, That in the opinion of the Massachusetts State Board of Agriculture, the Entomological Society of Philadelphia, by its researches and its publications, has exhibited a commendable desire to increase the amount of human knowledge.

*Resolved*, That the endeavors of this society to disseminate in an available form a knowledge of a most important branch of natural history among farmers and pomologists, we regard with great favor, and we specially recommend their publications and their gratuitous labors to the favorable notice of the community.

#### COMMITTEES ON ESSAYS.

Mr. Bull, from the committee appointed for the purpose, reported the following list of subjects for essays, which were assigned by the report of another committee, through its chairman, Mr. Moore, to the following committees, viz. :—

1. *Waste of Manures*.—Messrs. Loring, Sanderson and Billings.

2. *Nature's Methods of Distributing Plants*.—Messrs. Chadbourne, Watkins and Knowlton.

3. *Cultivation of Cereals in New England*.—Messrs. Thompson, Cole and Ward, of Monson.

4. *Location and Structure of Farm Buildings*.—Messrs. Stockbridge, Thatcher and Porter.

5. *Hedges and Farm Fences*.—Messrs. Slade, Hyde and Sewall.

6. *Fall and Spring Ploughing*.—Messrs. Ward, of Shrewsbury, Watkins and Birnie.

7. *Relation of Manufactures to Agriculture*.—Messrs. Durfee, Agassiz and Saltonstall.

8. *Drainage*.—Messrs. Porter, Hubbard and Slade.

9. *The Vineyard*.—Messrs. Bull, Durfee and Clement.

10. *Manure and its Application*.—Messrs. Smith, Johnson and Davis.

11. *Climate of Localities*.—Messrs. Clark, King and Cleaveland.

12. *The Hay Crop*.—Messrs. Hubbard, Moore and Stockbridge.

13. *Theory Applied to Practice*.—Messrs. King, Thompson and Durfee.

14. *Night Soil*.—Messrs. Clement, Sanderson and Knowlton.

15. *Improvement of Stock*.—Messrs. Johnson, Birnie and Thatcher.

16. *Specialties in Farming*.—Messrs. Moore, Slade and Sewall.

17. *Amending Soils by Mechanical Means*.—Messrs. Cleaveland, Cole and Hyde.

18. *Swine and their Diseases*.—Messrs. Davis, Ward and Porter.

19. *Effects of the Forest on Vegetation*.—Messrs. Saltonstall, Loring and Ward, of Shrewsbury.

20. *Fruit Culture*.—Messrs. Hyde, Billings, Smith, Bull and Clark.

21. *Preservation of Birds Beneficial to Agriculture*.—Messrs. Saltonstall, Smith and Moore.

These Reports were accepted and the list adopted with the committees to which the several subjects were respectively assigned.

*Voted*, That Messrs. Bull, Moore, Loring and the Secretary be constituted a Committee on Meetings.

On motion of Mr. Stockbridge, it was



*Resolved*, That a Committee be appointed by the Board to act as an examining Committee of the different classes of the Agricultural College.

This Committee was constituted by the appointment of Messrs. Loring, Hyde and Saltonstall.

*Resolved*, That the Secretary of the Board be instructed to remove the State cabinet to the Agricultural College, when the trustees of that institution indicate to him their readiness to receive and care for the same.

The State Cabinet was begun some years ago, with the design of illustrating as completely as practicable, through the limited means at command, the Natural History of this Commonwealth in all its branches. It consists of many thousand specimens of minerals, plants, fishes, reptiles, insects and birds, many of them rare and difficult to obtain, all of which have been collected within the State and arranged in a room connected with this office at the State House.

This collection has already accomplished a vast amount of good, attracted the attention and secured the co-operation of a large number of persons in all parts of the State, while, on the other hand, it has offered facilities for study and observation to those not specially conversant with the extent and variety of our natural history, and has administered to a laudable and elevated curiosity, and to the promotion of a taste for such studies among the young.

It is believed that in its present location, central and easily accessible as it is, it may be seen and studied by a larger number of persons than in any other. But the increase of business, and the increased wants of the various departments of the State Government, have made it necessary to furnish additional office accommodations and committee-rooms, and seem to require that the room now occupied by the collection should be given up. If the Cabinet is to be moved from its present position, it is eminently proper that it should go where it may accomplish the greatest amount of good—where its collections may be studied and used; and the Agricultural College, soon to go into

operation in the town of Amherst, is better entitled to receive it than any other institution. It will no doubt be more fully appreciated there than it would be if merged in a vast miscellaneous collection, from the fact that it is, what its name implies, a State Cabinet.

A similar collection will be needed by the Massachusetts Agricultural College, and many years of labor would be required, to say nothing of the expense to be incurred, to build up such an one as the State Board has established at its office; for though it is not pretended that it is complete and perfect, it is not too much to say that it forms an admirable nucleus of a Cabinet which will be alike honorable to the Commonwealth and to the College.

The present prospect of the Agricultural College is promising and satisfactory. The current year will, no doubt, witness the construction of the buildings and the opening of the college to students. The liberality of public-spirited individuals has already been extended to the institution, and it is hoped that other donations will be made to establish it on a permanent and solid foundation, and to enlarge the various departments of instruction, beyond the limits which the present available funds permit.

The Annual Report of the Trustees of the College will be found in the Appendix of the second part of this Report, and reference is respectfully made to that for more complete information as to the plan of instruction contemplated by the government.

The year that has closed, the agricultural operations of which I have the honor to lay before you, has not been an eventful one to the farming interests of our country, or especially to this section of it. The charm of agricultural life is its stability and freedom from excitement or fluctuation.

The mysterious wire that during the past year has been made to connect in intelligence two continents, may flash across the information of disastrous battles, or of great events that lead the merchant or the statesman to shape their courses to meet new and unforeseen contingencies, but the farmer quietly and steadily pursues and follows up his well matured plans, and in due time is pretty sure to enjoy in quiet the fruits of his labors.

Notwithstanding the drought of the two preceding years, to which I adverted in my last Report, had so affected the orchards and trees that the supply of fruit was limited in most parts of the State, the general productions of the field and the farm have been abundant, and a reasonable degree of prosperity has blessed the labors of the husbandman; while the prospects for agricultural progress and improvement are as promising as at any time during our past history. The true science of agriculture has probably never made so great advances in the same length of time as during the past year, and the future, therefore, is full of hope.

CHARLES L. FLINT,

*Secretary of the State Board of Agriculture.*

Boston, January 23, 1867.

## APPENDIX.



Housatonic, . . .	\$600 00	\$2,866 95	\$169 34	\$687 94	\$4,323 23	\$1,939 00	\$1,699 00	\$2,604 19	\$4,408 19	\$84 56	\$9,000 00	\$75 00	\$20,000 00
Berkshire, . . .	600 00	2,709 55	250 00	535 85	4,065 40	2,389 00	1,833 50	1,789 32	3,602 82	-	10,000 00	2,800 00	10,000 00
Housac Valley, . .	600 00	150 00	267 00	1,021 30	2,038 30	1,149 50	823 00	908 43	1,818 43	2,800 00	7,000 00	135 00	5,000 00
Norfolk, . . .	600 00	-	6,575 00	3,017 21	10,292 21	1,549 00	438 00	2,928 09	10,247 55	1,000 00	10,414 00	-	10,414 00
Bristol, . . .	600 00	-	86 00	6,633 06	7,319 08	1,650 00	1,684 35	1,890 77	3,545 12	5,000 00	22,612 00	1,860 53	20,463 04
Bristol Central, . .	-	-	502 00	3,607 43	4,109 43	1,350 75	1,306 50	1,438 75	2,438 75	4,762 72	15,283 50	1,000 00	11,490 80
Plymouth, . . .	600 00	125 00	929 00	8,215 35	9,919 35	2,040 00	978 33	2,694 97	9,575 07	740 00	22,000 00	1,000 00	23,000 00
Barnstable, . . .	600 00	40 00	-	773 40	1,413 40	770 00	450 36	905 85	1,356 21	800 00	6,000 00	800 00	6,300 00
Nantucket, . . .	600 00	203 59	12 75	333 48	1,149 80	974 25	370 48	592 63	903 11	-	3,463 05	586 35	4,049 40
Martha's Vineyard, .	600 00	504 87	175 65	150 27	1,430 79	924 50	617 40	409 53	1,580 56	295 00	3,465 00	2,617 20	6,022 20
Totals, . . .	\$14,400 00	\$29,662 00	\$13,498 93	\$50,404 14	\$58,885 06	\$32,459 70	\$34,934 39	\$37,276 28	\$80,617 17	\$49,801 46	\$243,172 49	\$342,968 09	\$230,638 24

\* As donations the Society has received 30 acres of land from the citizens of Concord, and donations in money from other towns of about \$2,500. The old lot of land and buildings were sold for \$1,500.

### Permanent Fund—How Invested.

Essex.—In bank stock, railroad bonds.	Hampden.—In park and buildings.
Middlesex.—In real estate, fixtures, stocks, bonds, &c.	Hampden East.—In real estate.
Middlesex North.—In land, buildings and personal property.	Franklin.—In real estate and bank stock.
Middlesex South.—In buildings, land, pens, fixtures, notes.	Housatonic.—In notes and real estate.
Worcester.—In real estate.	Berkshire.—In real estate.
Worcester West.—In real estate, cattle pens, fixtures, &c.	Housac Valley.—In real estate.
Worcester North.—In bank stock, U. S. bonds, notes, &c.	Norfolk.—In real estate occupied by the society.
Worcester South.—In Agricultural Hall, furniture, cattle pens, &c.	Bristol.—In farm and buildings, personal property, fixtures.
Worcester South-East.—In real estate, cattle pens, fixtures, &c.	Bristol Central.—In real estate, farm owned by the society.
Hampshire, Hampden and Franklin.—In bond and mortgage secured by real estate.	Plymouth.—In real estate, furniture and fixtures.
Hampshire.—In buildings and land in use by the society.	Barnstable.—In lands and buildings.
Highland.—In real estate, mortgage, U. S. bonds, &c.	Nantucket.—In real estate, personal property, U. S. bonds, &c.
	Martha's Vineyard.—In land, hall, fixtures and notes.



## ANALYSIS OF PREMIUMS AND GRATUITIES AWARDED.

## FOR FARMS, FARM IMPROVEMENTS, MANURES, &amp;c.

SOCIETIES.	For management of farms.	For draining.	For subsoiling.	For ploughing at the exhibition.	For reclaiming swamp lands.	For experiments with manures.	For spading.	For hedges and ornamental trees.	For reclaiming old pastures.	For orchards of all kinds.	For cranberries.	Total amt. of improvements.	Total amt. awarded for farm improvements.	Total amt. actually paid for farm improvements.
Massachusetts, . . . . .				\$92 00		\$15 00					\$10 00	\$317 00	\$117 00	\$112 00
Paez, . . . . .				58 00						\$30 00		147 00	78 00	78 00
Middlesex, South, . . . . .				44 00	\$15 00						3 00	133 00	69 00	69 00
Middlesex North, . . . . .				54 00									54 00	54 00
Worcester, West, . . . . .				45 00						25 00		170 00	45 00	45 00
Worcester North, . . . . .				35 00							4 50	129 00	88 00	88 00
Worcester South, . . . . .				59 00								171 00	89 50	89 50
Worcester South-East, . . . . .											2 00	20 00	59 00	59 00
Hampshire, Franklin & Hampden, . . . . .	\$20 00										1 00	107 00	21 00	21 00
Hampshire, . . . . .											1 50	133 00		
Higland, . . . . .				34 00								183 00	19 00	19 00
Hampden, . . . . .				19 00								183 00		
Hampden East, . . . . .												60 00		
Franklin, . . . . .	\$50 00			43 00	6 00	15 00				36 00		139 00	135 00	135 00
Berkshire, . . . . .				60 00							5 00	63 00	18 00	18 00
Housatonic, . . . . .												41 00	25 00	25 00
Housac Valley, . . . . .		11 00		86 00								333 00	96 00	78 00
Norfolk, . . . . .				99 00								274 00	99 00	99 00
Bristol, . . . . .				88 00							50	230 00		
Bristol Central, . . . . .				48 00								116 00	60 00	46 00
Plymouth, . . . . .				5 00								66 00	36 00	
Barnstable, . . . . .				7 00						13 00		88 00	37 00	37 00
Nantucket, . . . . .				14 50						10 00		72 00	30 25	30 00
Martha's Vineyard, . . . . .											2 75	3 00		
Totals, . . . . .	\$75 00	\$31 00	-	\$953 50	\$21 00	\$30 00	-	-	\$12 00	\$119 00	\$30 25	\$1,331 00	\$1,104 75	\$1,035 50

## FOR FARM STOCK.

SOCIETIES.	For Bulls.	For Milch Cows.	For Heifers.	For Calves.	For Working Oxen.	For Steers.	For Fat Cattle.	For Horses.	For Sheep.	For Swine.	For Poultry.	All other Stock.	Total amt. offered for Live Stock.	Total amt. awarded for Live Stock.	Total amt. paid out for Live Stock.
Massachusetts,															
Essex,	\$34 00	\$35 00	\$29 00	\$9 00	\$65 00	\$4 00	\$23 00	\$109 00	\$19 00	\$29 00	\$15 00	\$75 00	\$475 00	\$368 00	\$342 00
Middlesex,	20 00	71 00	12 00	5 00	18 00	22 00	16 00	270 00	18 00	32 00	15 00	30 00	790 00	634 00	634 00
Middlesex North,	38 00	76 00	32 00	6 00	39 00	4 00	20 00	70 00	18 00	20 00	19 00	30 00	463 00	384 00	328 25
Middlesex South,	29 00	36 00	20 00	10 00	13 00	29 00	14 00	82 00	16 00	31 00	43 00	-	823 00	298 00	272 00
Worcester,	90 00	137 00	82 00	16 00	86 00	29 00	23 00	667 00	39 00	39 00	20 00	-	1,243 00	1,128 00	1,128 00
Worcester West,	47 00	50 00	12 00	12 00	36 00	24 00	30 00	444 00	11 00	26 00	6 00	19 00	604 00	726 00	663 50
Worcester North,	40 00	52 00	15 00	66 00	34 00	39 00	31 00	96 00	26 00	34 00	14 00	25 00	678 00	474 00	406 00
Worcester South,	42 00	47 00	32 00	2 00	39 00	58 00	6 00	55 00	28 00	11 00	7 00	66 00	428 50	393 00	387 00
Worcester South-East, and	22 00	25 00	21 00	-	28 00	19 00	-	75 00	12 00	34 00	8 00	7 00	399 00	291 00	213 50
Hampshire, Franklin, and															
Hamden,	47 00	23 00	22 00	12 00	66 00	26 00	85 00	558 00	70 00	23 00	10 00	151 00	1,088 00	1,093 00	853 00
Hampshire,	26 00	3 00	10 00	15 50	24 00	23 00	30 00	201 00	20 00	19 00	10 00	44 00	625 00	425 50	417 50
Highland,	32 00	13 00	14 00	3 25	23 00	14 00	27 00	99 00	22 00	9 00	6 00	32 80	432 26	294 75	294 75
Hamden,	49 00	24 00	31 00	15 00	20 00	16 00	71 00	399 00	30 00	8 00	16 50	10 00	681 00	689 50	605 50
Hamden East,	17 00	12 00	1 50	2 00	24 00	17 00	23 00	73 00	26 00	21 00	8 00	28 00	380 50	349 50	249 50
Franklin,	49 00	34 00	10 50	9 00	14 00	44 50	19 00	154 00	45 00	21 00	3 50	97 50	612 00	601 00	418 00
Berkshire,	44 00	34 00	45 00	12 00	43 00	23 00	14 00	348 00	129 00	53 00	37 50	53 00	941 00	845 50	845 50
Housatonic,	39 00	71 00	42 00	10 00	40 00	43 00	28 00	512 00	64 00	32 00	36 00	24 00	559 00	992 00	992 00
Roscoe Valley,	26 00	9 00	15 00	3 00	21 00	13 00	5 00	146 00	60 00	15 00	29 00	51 00	639 00	406 00	391 00
Norfolk,	30 00	67 00	13 00	12 00	12 00	13 00	-	157 00	84 00	12 00	22 00	16 00	544 00	347 00	196 00
Bristol,	84 00	47 00	32 00	6 00	81 00	13 00	49 00	124 00	17 00	31 00	26 75	16 00	651 00	1,036 75	1,036 75
Bristol Central,	51 00	49 00	6 00	4 00	69 00	43 00	28 00	114 00	18 00	40 00	46 00	67 00	923 00	820 00	820 00
Plymouth,	29 00	71 00	39 00	36 00	46 00	19 00	45 00	579 53	57 00	49 00	29 75	-	1,169 00	999 06	793 06
Barnstable,	16 00	42 00	10 00	6 00	36 00	6 00	35 00	39 00	17 00	20 00	15 00	-	286 00	174 00	174 00
Nantucket,	20 00	23 00	7 00	5 50	10 00	13 00	34 00	46 00	59 50	12 00	19 00	13 00	609 00	329 50	329 50
Martha's Vineyard,	78 00	43 00	25 00	7 50	12 00	13 00	34 00	46 00	14 00	12 00	5 25	13 00	503 50	603 50	311 86
Totals,	\$969 60	\$1,065 00	\$590 00	\$253 75	\$684 00	\$523 50	\$656 00	\$5,377 33	\$611 50	\$613 00	\$464 25	\$909 00	\$16,245 75	\$13,560 93	\$12,369 21

## ANALYSIS OF PREMIUMS AND GRATUITIES AWARDED—Continued.

## FOR FARM PRODUCTS.

SOCIETIES.	Indian Corn.	Wheat.	Rye.	Barley.	Oats.	Beans.	Grass Crops.	Grass Seeds.	Potatoes.	Carrots.	Beets.	Pumpkins.	English Turnips.	Butter-Beans.	Onions.	Other Root Crops.
Massachusetts,	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Essex,	\$3 00	\$3 00	-	-	\$1 00	-	-	-	-	-	-	-	\$8 00	-	\$8 00	\$83 00*
Middlesex,	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Middlesex North,	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Middlesex South,	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Worcester,	2 00	1 00	\$1 00	\$1 00	1 00	-	-	-	\$4 00	-	\$2 00	-	1 00	\$1 00	1 00	45 50
Worcester West,	-	-	-	-	-	-	-	-	18 75	\$4 00	1 75	-	1 00	75	5 25	27 00
Worcester North,	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31 88
Worcester South,	-	-	-	-	-	-	-	-	-	7 00	-	-	-	-	-	-
Worcester South-East,	7 00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7 00
Hampden, Franklin & Hampden,	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hampshire,	2 00	6 75	1 75	-	-	-	\$3 00	-	-	3 00	2 00	-	2 00	5 00	-	-
Highland,	3 00	4 00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hampden,	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hampden East,	5 50	-	4 00	-	-	-	-	-	-	-	-	-	-	-	-	-
Franklin,	2 50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Berkshire,	36 00	21 00	20 00	15 00	36 00	\$5 00	12 00	\$10 00	28 00	6 00	6 00	-	3 00	6 00	3 00	10 00
Hoosac,	65 00	42 00	42 00	15 00	44 00	6 00	5 00	13 00	20 00	3 00	3 00	\$27 00	6 00	-	-	18 00
Hoosac Valley,	27 00	11 00	10 00	10 00	15 00	3 00	6 00	6 00	14 00	-	-	-	-	-	-	45 00
Norfolk,	-	-	-	-	-	-	5 00	-	-	-	-	-	-	-	-	46 00*
Bristol,	30 00	-	-	6 00	6 00	-	-	-	-	-	-	-	-	4 00	10 90	-
Bristol Central,	-	5 00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plymouth,	-	5 00	-	4 00	7 00	-	-	-	7 00	-	-	-	7 00	5 00	-	4 00
Barnstable,	21 90	-	-	-	5 00	-	-	-	-	4 00	3 00	-	-	-	-	-
Nantucket,	20 00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Martin's Vineyard,	16 00	-	5 50	1 00	11 50	2 55	-	-	12 60	5 25	6 75	-	13 00	5 00	1 55	6 90
Totals,	\$240 00	\$63 75	\$100 25	\$52 00	\$126 50	\$17 55	\$28 00	\$29 00	\$113 95	\$32 25	\$24 50	\$27 00	\$41 00	\$21 75	\$28 90	\$314 20

\* Collections of various roots and vegetables.

## FARM PRODUCTS—CONCLUDED.

SOCIETIES.	Total amount of- seed for Grain & Root Crops.	Total amt't paid for Grain & Root Crops.	Total amt't paid for Grain and Root Crops.	Broomcorn	Fruit.	Flowers.	Any other culti- vated Crops.	Milk.	Butter.	Cheese.	Honey.	Wheat Bread.	Rye and Indian Bread.	Corn Bread.	Total amt't paid out under the head of Farm Products.
Massachusetts,	\$130 00	\$16 00	\$16 00	-	\$127 00	\$27 50	\$68 50*	-	\$30 00	\$30 00	-	-	-	-	\$47 00
Essex,	-	70 00	70 00	-	104 00	16 00	6 00	-	30 00	-	-	-	-	-	254 00
Middlesex,	73 00	32 00	32 00	-	80 00	-	-	-	14 00	-	-	-	-	-	262 00
Middlesex North,	115 00	-	-	-	48 50	15 25	-	-	16 00	-	-	-	-	-	272 50
Middlesex South,	92 00	-	-	-	-	-	-	-	16 00	-	-	-	-	-	232 00
Worcester,	42 00	42 00	42 00	-	-	-	-	-	33 00	40 00	\$13 50	8 75	6 00	-	133 25
Worcester West,	-	-	-	-	19 75	14 50	-	-	30 00	50 00	-	5 00	6 00	-	133 25
Worcester North,	181 75	89 38	89 38	-	71 00	21 25	3 50	-	13 50	4 50	3 00	5 50	6 00	-	113 25
Worcester South,	80 00	21 00	21 00	-	34 70	3 00	15 50	-	14 00	14 00	25	12 00	6 00	-	208 00
Worcester South-East,	89 00	14 00	14 00	-	66 00	7 75	4 00	-	13 00	6 00	-	3 00	2 50	-	98 50
Hampshire, Franklin & Hampd.,	86 00	13 50	13 50	-	48 25	18 00	5 00	-	10 75	2 00	4 00	3 00	1 50	\$1 50	84 00
Hampshire,	-	-	-	-	28 50	23 25	9 00	-	12 50	7 00	-	3 50	4 00	3 00	71 00
Highland,	84 00	29 00	29 00	-	23 50	6 00	45 00	-	6 50	6 50	1 50	75	1 25	-	77 00
Hamden,	-	-	-	-	60 50	15 00	-	-	11 00	8 00	-	5 00	4 00	-	82 50
Hamden East,	96 95	12 50	12 50	-	8 50	2 00	-	-	15 00	9 00	1 50	4 50	7 00	3 00	114 75
Franklin,	62 00	13 00	13 00	-	46 25	23 50	-	-	9 00	7 50	-	1 00	6 50	6 50	475 00
Berkshire,	224 00	221 00	221 00	-	71 00	13 50	63 00	-	80 00	44 00	9 00	3 00	3 00	6 00	460 00
Housatonic,	365 00	262 00	262 00	11 00	68 00	20 00	20 00	-	27 00	27 00	8 00	5 00	6 00	-	218 00
Housatonic Valley,	161 00	111 00	111 00	-	41 00	10 00	-	-	10 00	31 00	8 00	9 00	6 00	-	65 00
Norfolk,	365 00	48 00	48 00	-	130 00	17 00	-	-	31 00	8 00	-	1 95	1 70	11 54	363 60
Bristol,	275 00	107 00	107 00	-	171 50	17 50	-	-	25 00	21 00	8 50	3 50	1 00	-	134 25
Bristol Central,	151 00	80 00	80 00	-	57 00	7 25	-	-	15 00	13 00	9 00	3 50	6 00	-	138 75
Plymouth,	175 00	44 00	44 00	-	110 75	39 50	-	-	21 00	21 00	-	5 50	7 00	6 00	138 75
Barnstable,	111 00	44 00	44 00	-	48 00	12 75	-	-	8 00	7 00	-	6 00	7 00	-	252 50
Nantucket,	142 00	23 00	23 00	-	40 50	12 00	-	-	7 00	-	2 00	2 00	4 50	4 00	212 70
Martha's Vineyard,	129 00	92 70	92 70	-	39 00	6 25	24 25	-	25 25	7 50	2 50	6 25	-	-	-
Total,	\$3,249 70	\$1,299 06	\$1,286 08	\$28 00	\$1,533 25	\$342 73	\$261 75	-	\$438 50	\$361 00	\$67 25	\$123 70	\$136 45	\$41 54	\$1,397 55

† Sundries.

† Different kinds of bread.

\* Vegetables.

## ANALYSIS OF PREMIUMS AND GRATUITIES AWARDED—Concluded.

## MISCELLANEOUS.

SOCIETIES.	Amount awarded for Agricultural Imple- ments.	Amount offered for raising forest trees.	Amount awarded and paid out for the same.	Amount for experi- ments on manures.	Am't awarded for all other objects strict- ly agricultural not specified before.	Amount awarded for objects other than agricultural.	No. of persons who received premiums and gratuities.
Massachusetts, . . .	-	-	-	-	-	-	-
Essex, . . . . .	\$27 00	\$30 00	-	\$40 00	-	\$213 00	285
Middlesex, . . . .	19 00	-	-	-	-	48 25	175
Middlesex North, .	10 00	"	-	-	-	39 75	-
Middlesex South, .	12 00	80 00	-	-	-	78 80	176
Worcester, . . . .	54 00	22 00	-	-	-	13 75	175
Worcester West, . .	12 00	30 00	-	70 00	-	63 61	172
Worcester North, .	46 00	50 00	-	-	-	150 59	281
Worcester South, .	6 00	35 00	-	75 00	-	91 95	145
Worcester South-East,	3 00	30 00	-	-	-	3 00	219
Hampshire, Franklin and Hampden, }	23 75	20 00	-	-	-	60 75	265
Hampshire, . . . .	5 00	15 00	-	40 00	-	36 25	174
Highland, . . . .	-	-	-	-	-	60 50	155
Hampden, . . . .	-	15 00	-	-	-	46 50	101
Hampden East, . . .	2 00	25 00	-	73 00	-	78 65	98
Franklin, . . . .	5 50	10 00	-	9 00	-	47 75	200
Berkshire, . . . .	50 00	-	-	-	\$58 00	270 00	409
Housatonic, . . . .	21 50	-	-	-	9 00	162 00	286
Hoosac Valley, . . .	17 00	-	-	-	-	184 00	265
Norfolk, . . . .	16 00	15 00	-	-	-	80 00	130
Bristol, . . . .	6 50	105 00	-	60 00	25 00	161 50	424
Bristol Central, . .	-	-	-	-	-	128 25	262
Plymouth, . . . .	-	60 00	-	60 00	-	289 65	320
Barnstable, . . . .	3 00	-	-	12 00	-	86 63	274
Nantucket, . . . .	-	13 00	-	12 00	35 00	33 12	199
Martha's Vineyard, .	-	21 00	-	20 00	-	93 10	155
Totals, . . . .	\$339 25	\$576 00	-	\$471 00	\$127 00	\$2,521 35	4,945

*NAMES of the Cities and Towns in which resided the persons when receiving the Premiums and Gratuities awarded by the County Societies, and the several amounts as disbursed.*

## E S S E X.

Amesbury, . . . . \$9 50	Marblehead, . . . . \$9 50
Andover, . . . . 27 50	Methuen, . . . . 30 50
Boston, . . . . 7 00	Middleton, . . . . 8 00
Boxford, . . . . 27 00	Newbury, . . . . 31 00
Bradford, . . . . 155 00	Newburyport, . . . . 1 00
Danvers, . . . . 67 50	North Andover, . . . . 88 00
Fitchburg, . . . . 3 00	Rowley, . . . . 21 00
Georgetown, . . . . 14 00	Salem, . . . . 71 00
Groveland, . . . . 10 50	South Danvers, . . . . 22 50
Haverhill, . . . . 284 75	Topsfield, . . . . 12 00
Ipswich, . . . . 10 00	Wenham, . . . . 50
Lawrence, . . . . 2 50	West Newbury, . . . . 86 50
Lynn, . . . . 50	Total, . . . . \$1,000 25

## M I D D L E S E X.

Acton, . . . . \$72 00	Lowell, . . . . \$25 00
Bedford, . . . . 14 00	Providence, . . . . 6 00
Belmont, . . . . 42 50	Somerville, . . . . 85 00
Boston, . . . . 11 00	Stow, . . . . 11 25
Brighton, . . . . 1 00	Sudbury, . . . . 15 00
Cambridge, . . . . 23 00	Waltham, . . . . 8 00
Chelmsford, . . . . 7 50	West Cambridge, . . . . 51 00
Concord, . . . . 237 00	Westford, . . . . 50
Framingham, . . . . 3 25	Weston, . . . . 15 00
Groton, . . . . 7 00	Wilmington, . . . . 27 00
Hudson, . . . . 12 00	Winchester, . . . . 2 00
Lexington, . . . . 131 00	Woburn, . . . . 29 00
Lincoln, . . . . 48 25	Total, . . . . \$903 25
Littleton, . . . . 19 00	



## MIDDLESEX NORTH.

Acton, . . . .	\$20 00	Pepperell, . . . .	\$8 75
Billerica, . . . .	14 00	Tewksbury, . . . .	40 00
Chelmsford, . . . .	86 50	Tyngeborough, . . . .	58 00
Dracut, . . . .	66 75	Westford, . . . .	18 75
Dunstable, . . . .	113 25	Wilmington, . . . .	14 25
Groton, . . . .	5 00		
Lowell, . . . .	187 25	Total, . . . .	\$627 50

## MIDDLESEX SOUTH.

Framingham, . . . .	\$379 72	Southborough, . . . .	\$56 50
Holliston, . . . .	24 00	Sudbury, . . . .	20 12
Hopkinton, . . . .	29 00	Wayland, . . . .	48 25
Marlborough, . . . .	19 00	Out of the district, . . . .	8 00
Natick, . . . .	40 90		
Sherburne, . . . .	11 00	Total, . . . .	\$631 49

## WORCESTER.

Auburn, . . . .	\$5 00	Oxford, . . . .	\$15 00
Barre, . . . .	39 00	Paxton, . . . .	1 00
Bolton, . . . .	15 00	Princeton, . . . .	109 00
Boylston, . . . .	2 00	Shrewsbury, . . . .	8 50
Charlton, . . . .	24 00	Southborough, . . . .	6 00
Dudley, . . . .	1 75	Southbridge, . . . .	70 00
Grafton, . . . .	50 00	Spencer, . . . .	10 00
Holden, . . . .	16 00	Starbridge, . . . .	4 00
Leicester, . . . .	43 00	Sutton, . . . .	52 00
Leominster, . . . .	8 00	Warren, . . . .	2 00
Milford, . . . .	25 00	Westborough, . . . .	56 00
Millbury, . . . .	104 00	West Boylston, . . . .	41 00
New Braintree, . . . .	9 00	Worcester, . . . .	646 75
Northborough, . . . .	14 00	Total, . . . .	\$1,377 00

## WORCESTER WEST.

Athol, . . . . .	\$2 50	North Brookfield, . . . .	\$13 00
Barre, . . . . .	308 61	Oakham, . . . . .	14 67
Brookfield, . . . . .	10 00	Palmer, . . . . .	145 00
Charlton, . . . . .	14 00	Petersham, . . . . .	8 25
Dana, . . . . .	25	Phillipston, . . . . .	2 00
Fitchburg, . . . . .	75 00	Princeton, . . . . .	17 00
Framingham, . . . . .	15 00	Shrewsbury, . . . . .	2 50
Hardwick, . . . . .	72 25	Sutton, . . . . .	21 00
Hopkinton, . . . . .	10 00	Templeton, . . . . .	8 50
Hubbardston, . . . . .	7 33	Worcester, . . . . .	85 00
Millbury, . . . . .	30 00		
New Braintree, . . . . .	39 00	Total, . . . . .	\$900 86

## WORCESTER NORTH.

Ashburnham, . . . . .	\$7 00	Princeton, . . . . .	\$138 50
Ashby, . . . . .	24 15	Royalston, . . . . .	14 00
Fitchburg, . . . . .	440 19	Shirley, . . . . .	4 00
Harvard, . . . . .	8 00	Sterling, . . . . .	18 00
Leominster, . . . . .	79 05	Templeton, . . . . .	13 00
Lunenburg, . . . . .	52 25	Westminster, . . . . .	27 00
Oakdale, . . . . .	50		
Petersham, . . . . .	75	Total, . . . . .	\$826 39

## WORCESTER SOUTH.

Brimfield, . . . . .	\$66 80	Southbridge, . . . . .	\$70 25
Brookfield, . . . . .	6 25	Spencer, . . . . .	3 75
Charlton, . . . . .	136 65	Sturbridge, . . . . .	139 70
Dudley, . . . . .	57 80	Sutton, . . . . .	24 50
Grafton, . . . . .	6 00	Warren, . . . . .	47 75
Holland, . . . . .	12 25	Webster, . . . . .	16 25
Java, N. Y., . . . . .	50	West Brookfield, . . . . .	50
Millbury, . . . . .	26 00	Woodstock, Ct., . . . . .	5 00
Oxford, . . . . .	4 00	Total, . . . . .	\$623 95

## WORCESTER SOUTH-EAST.

Abington, . . . .	\$1 50	Northbridge, . . . .	\$5 00
Bellingham, . . . .	7 50	Southborough, . . . .	14 00
Blackstone, . . . .	3 00	Sutton, . . . .	14 00
Clinton, . . . .	3 00	Upton, . . . .	31 00
Grafton, . . . .	10 00	Uxbridge, . . . .	3 75
Hopkinton, . . . .	33 62	Westborough, . . . .	40 00
Holliston, . . . .	35 00	Woburn, . . . .	25
Medway, . . . .	24 75	Wrentham, . . . .	7 00
Mendon, . . . .	73 75		
Milford, . . . .	240 75	Total, . . . .	\$547 87

## HAMPSHIRE, FRANKLIN AND HAMPDEN.

Amherst, . . . .	\$80 00	Middlefield, . . . .	\$8 00
Belchertown, . . . .	2 00	Northampton, . . . .	421 50
Chicopee, . . . .	29 00	Palmer, . . . .	60 00
Conway, . . . .	5 00	South Hadley, . . . .	99 00
Cummington, . . . .	15 00	Southampton, . . . .	22 00
Deerfield, . . . .	21 00	Springfield, . . . .	125 00
Easthampton, . . . .	44 00	Sunderland, . . . .	21 00
Granby, . . . .	10 00	Westfield, . . . .	85 00
Greenfield, . . . .	10 00	Westhampton, . . . .	7 00
Hadley, . . . .	85 00	Whateley, . . . .	5 00
Hatfield, . . . .	59 00	Williamsburg, . . . .	41 00
Huntington, . . . .	3 00		
Leverett, . . . .	4 00	Total, . . . .	\$1,268 50

## HAMPSHIRE.

Amherst, . . . .	\$272 75	Monson, . . . .	\$20 00
Belchertown, . . . .	44 20	Northampton, . . . .	3 00
Enfield, . . . .	5 00	Pelham, . . . .	21 25
Granby, . . . .	1 50	Springfield, . . . .	55 00
Hadley, . . . .	91 88	Sunderland, . . . .	109 60
Leverett, . . . .	19 48	Total, . . . .	\$643 66

## HIGHLAND.

Becket, . . . . \$56 75	Lee, . . . . \$5 75
Blandford, . . . . 50	Middlefield, . . . . 140 75
Cato, N. Y., . . . . 25	Newton, . . . . 50
Chester, . . . . 32 25	Northampton, . . . . 19 75
Cummington, . . . . 8 00	Peru, . . . . 32 00
Dalton, . . . . 3 00	Pittsfield, . . . . 4 00
Hartford, Ct., . . . . 25	Southampton, . . . . 50
Hinsdale, . . . . 68 00	Washington, . . . . 3 00
Huntington, . . . . 6 00	Worthington, . . . . 35 75
Lanesborough, . . . . 15 25	Total, . . . . \$432 25

## HAMPDEN.

Agawam, . . . . \$6 00	Springfield, . . . . \$397 00
Chicopee, . . . . 104 75	Westfield, . . . . 85 00
Holyoke, . . . . 22 50	West Springfield, . . . . 54 00
Longmeadow, . . . . 45 00	Wilbraham, . . . . 61 00
Ludlow, . . . . 11 75	Total, . . . . \$791 00
Southwick, . . . . 4 00	

## HAMPDEN EAST.

Belchertown, . . . . \$22 00	Palmer, . . . . \$98 50
Brimfield, . . . . 43 75	Ware, . . . . 6 00
Holland, . . . . 9 75	Wilbraham, . . . . 8 50
Ludlow, . . . . 8 00	Total, . . . . \$438 50
Monson, . . . . 242 00	

## FRANKLIN.

Bernardston, . . . . \$18 25	Greenfield, . . . . \$136 75
Coleraine, . . . . 25 25	Heath, . . . . 50
Conway, . . . . 13 00	Leverett, . . . . 8 00
Deerfield, . . . . 112 50	Leyden, . . . . 27 25
Erving, . . . . 6 00	Montague, . . . . 4 00
Gill, . . . . 2 50	Northfield, . . . . 22 75

## FRANKLIN—CONTINUED.

Orange, . . . .	\$4 50	Whateley, . . . .	\$8 00
Shelburne, . . . .	266 75		
Sunderland, . . . .	86 50	Total, . . . .	\$692 50

## BERKSHIRE.

Alford, . . . .	\$5 00	North Adams, . . . .	\$24 00
Becket, . . . .	7 00	Peru, . . . .	11 00
Cheshire, . . . .	95 50	Pittsfield, . . . .	448 75
Curtisville, . . . .	8 00	Richmond, . . . .	59 75
Dalton, . . . .	68 50	Savoy, . . . .	4 00
Egremont, . . . .	7 00	Sheffield, . . . .	17 00
Great Barrington, . . . .	25 00	South Adams, . . . .	120 00
Hancock, . . . .	14 00	Stockbridge, . . . .	105 25
Hinsdale, . . . .	55 00	Troy, N. Y., . . . .	100 00
Lanesborough, . . . .	227 75	Washington, . . . .	4 00
Lee, . . . .	129 50	West Stockbridge, . . . .	4 00
Lenox, . . . .	228 50	Williamstown, . . . .	67 00
Monterey, . . . .	8 00	Windsor, . . . .	2 00
New Ashford, . . . .	1 50		
New Marlborough, . . . .	1 50	Total, . . . .	\$1,833 50

## HOUSTONIC.

Alford, . . . .	\$67 50	Richmond, . . . .	\$24 00
Becket, . . . .	15 00	Salisbury, . . . .	1 00
Egremont, . . . .	183 00	Sandisfield, . . . .	17 00
Great Barrington, . . . .	645 00	Sheffield, . . . .	297 50
Lee, . . . .	91 50	South Adams, . . . .	11 00
Lenox, . . . .	126 00	Stockbridge, . . . .	177 00
Monterey, . . . .	41 00	Tyringham, . . . .	7 50
New York State, . . . .	8 00	West Stockbridge, . . . .	23 00
New Marlborough, . . . .	9 00		
Pittsfield, . . . .	9 50	Total, . . . .	\$1,708 50

# APPENDIX.

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## HOOSAC VALLEY.

Cheshire, . . . .	\$50 00	Pownal, . . . .	\$28 00
Clarksburg, . . . .	24 00	Savoy, . . . .	1 00
Florida, . . . .	61 00	South Adams, . . . .	120 00
Lanesborough, . . . .	19 00	Stamford, . . . .	15 00
Lenox, . . . .	5 00	Williamstown, . . . .	253 00
North Adams, . . . .	252 00	Total, . . . .	\$823 00

## NORFOLK.

Boston, . . . .	\$16 00	Needham, . . . .	\$71 50
Brookline, . . . .	34 00	Quincy, . . . .	1 00
Canton, . . . .	33 00	Randolph, . . . .	1 00
Dedham, . . . .	144 50	Roxbury, . . . .	27 00
Dorchester, . . . .	101 00	Sharon, . . . .	50
Dover, . . . .	41 00	Stoughton, . . . .	33 00
Foxborough, . . . .	2 00	Walpole, . . . .	25 00
Franklin, . . . .	2 00	West Roxbury, . . . .	64 00
Medfield, . . . .	28 00	Weymouth, . . . .	8 00
Medway, . . . .	16 00	Wrentham, . . . .	14 00
Milton, . . . .	62 00	Total, . . . .	\$724 50

## BRISTOL.

Acushnet and Seekonk,* .	\$424 17	Norton, . . . .	\$151 10
Attleborough, . . . .	3 00	Raynham, . . . .	123 50
Berkley, . . . .	47 50	Rehoboth, . . . .	84 50
Dighton, . . . .	27 00	Seekonk. (See Acushnet.)	-
Easton, . . . .	63 29	Somerset, . . . .	84 25
Fall River, . . . .	19 25	Swansea, . . . .	11 50
Mansfield, . . . .	17 50	Taunton, . . . .	540 54
New Bedford, . . . .	37 25	Total, . . . .	\$1,584 35

## BRISTOL CENTRAL.

Acushnet, . . . .	\$41 50	Dartmouth, . . . .	\$10 00
Berkley, . . . .	24 50	Dighton, . . . .	8 00

\* Gratuities.



## BRISTOL CENTRAL—CONTINUED.

Fairhaven, . . . . .	\$3 00	Raynham, . . . . .	\$89 00
Fall River, . . . . .	232 50	Rochester, . . . . .	11 75
Freetown, . . . . .	20 25	Somerset, . . . . .	25 00
Lakeville, . . . . .	80 00	Swanzey, . . . . .	25 00
Mansfield, . . . . .	10 00	Taunton, . . . . .	75 00
Middleborough, . . . . .	50	Tiverton, . . . . .	1 00
New Bedford, . . . . .	101 00	Westport, . . . . .	1 00
Norton, . . . . .	79 00		
Portsmouth, . . . . .	10 00	Total, . . . . .	\$847 00

## PLYMOUTH.

Abington, . . . . .	\$22 75	North Bridgewater, . . . . .	\$236 37
Bridgewater, . . . . .	509 94	Pembroke, . . . . .	6 00
Carver, . . . . .	16 00	Plymouth, . . . . .	14 00
East Bridgewater, . . . . .	127 00	Plympton, . . . . .	22 50
Halifax, . . . . .	44 25	Randolph, . . . . .	25
Hanson, . . . . .	75	Rochester, . . . . .	8 00
Kingston, . . . . .	10 90	Taunton, . . . . .	115 00
Lakeville, . . . . .	14 00	Wareham, . . . . .	75
Marshfield, . . . . .	8 45	West Bridgewater, . . . . .	92 12
Mattapoisett, . . . . .	50	Weymouth, . . . . .	105 00
Medford, . . . . .	130 00		
Middleborough, . . . . .	130 50	Total, . . . . .	\$1,615 03

## BARNSTABLE.

Barnstable, . . . . .	\$329 36	Orleans, . . . . .	\$20 00
Brewster, . . . . .	10 00	Sandwich, . . . . .	30 50
Dennis, . . . . .	25 50	Yarmouth, . . . . .	25 00
Harwich, . . . . .	10 00	Total, . . . . .	\$450 36

## NANTUCKET.

Nantucket, . . . . .	\$370 48
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## MARTHA'S VINEYARD.

Chilmark, . . . . \$249 59	Tisbury, . . . . \$318 81
Edgartown, . . . . 41 00	
Gay Head, . . . . 8 00	Total, . . . . \$617 40

The attention of the officers of the County Societies is earnestly directed to the importance of a most careful preparation of the above returns. Many discrepancies appear in the returns of 1866, some very considerable. For instance: the Essex Society in its financial exhibit, returns as having paid out \$690.75, while in its analysis of payments it appears to have paid \$1,000.25; the Worcester appears to have paid \$902.86, but has paid \$900.86; the Worcester South-East, instead of \$417.80, has paid \$547.87; the Hampshire, Hampden and Franklin, instead of \$942.00, has paid \$1,268.50; the Franklin instead of \$621.00, has paid \$692.50; the Bristol instead of \$1,684.35, has paid \$1,584.35; the Bristol Central instead of \$1,306.50, has paid \$847.00; and the latter society has actually returned as its capital fund paid in free of all incumbrances, nothing.

Errors like these when noticed by the public can only tend to throw these returns into disrepute, while carefully prepared papers will make them valuable exhibits of the annual agricultural proceedings of the various societies in the Commonwealth.

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